Dr Holmes & with the Authors Compts
F.L.S.

NEW COMMERCIAL

PLANTS AND DRUGS

No. 11.

THE VERNONIA NIGRITIANA, *illustrated;* BOERHAAVA DIFFUSA, *by* Dr. Jayesingha; PICHE, *in Renal Stone, &c.;* JAMBUL, *its Chemistry and results in Diabetes, being a series of reports from actual experience in this country;* BALLOTA, *as a lithontriptic;* LYCOPODIUM TINCTURE; MANACA, *in Syphilis, Rheumatism, &c.;* SALIX NIGRA, *a recapitulation of results obtained;* HAYA POISON; EUCALYPTUS HONEY; COATED SPRING BOUGIES, *results obtained and new patterns;* SOZOIODOL; CHLORIDE OF METHYL *and its easy application in Therapeutics;* STROPHANTHUS; MUDAR BARK, *as an alterative, by* Dr. Jayesingha; PRODUCE RECEIVED AND EXAMINED CHRISTIA, *the new Bandage.*

BY

T. CHRISTY, F.L.S., M.S.C.I.,

F.R.G.S., F.R.B.S., ETC.

LONDON:

CHRISTY & CO., 25, LIME STREET, E.C.

1889.

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PREFACE.

Since the last issue of this work some most important concessions have been made to the chemical and allied trades of this country by the Government. The first question was, permitting damaged tea to be denatured and converted into that important drug, Caffeine, without paying any duty on the tea, thus placing English manufacturers on a footing with the German. I would take this opportunity to thank the Secretary of the Customs and other fellow workers for their courtesy and assistance, by which my task of obtaining from the Government this valuable concession was rendered pleasant and successful. The second question was that of allowing a drawback on Medicinal Tinctures when made here and exported from this country, thus to enable us to compete with our Continental opponents, especially in our own Colonies. It would appear that the Government have only half understood the importance of allowing full liberty to shippers in respect of the size and number of bottles in a case; the limitations and difficulties placed in the way practically cripple the whole benefit they have granted us, and the *Pharmaceutische Zeitung* of Berlin has every cause to gloat over the advantages Germany still retains, seeing that she can pack preparations containing spirits in any sized bottles or cases, whereas we Englishmen are debarred from shipping any bottles that are less than *one imperial pint by measure;* that *not less than five bulk gallons may be packed in one case*, and that *only bottles of one size may be packed in a case.* Again, the schedule of Tinctures that may be shipped is so absurdly limited, that most of the Drugs now in use are not included!!

Of the many new Drugs introduced, Salix Nigra, Jambul, Manaca, Pichi, Euphorbia are holding their ground well, while Antiarin, the crystalline active principle of Antiaris toxicaria is now under examination as a heart poison, $\frac{1}{300}$th part of a grain killing a good-sized dog. In a recent issue of the *British Medical Journal* there appeared an important article upon the decline of Chemical Science in this country, with many points of which I entirely agree, especially as I have for several years taken up the cudgels, unsuccessfully perhaps, to try and induce those who are studying for the Chemical or Medical Sciences to enter into the subject of original research with a little more energy and interest than is generally shown in England.

It is rather disheartening that all our Science work should be done in Continental Laboratories, while we have in Great Britain several institutions expressly and expensively fitted for the purpose. But what is the use of them if students are not taught to understand the value of original research? It is certainly of no use to them to learn the old and worn-out subjects, as now taught; what we want here is exactly what exists

in France and Germany, where each student presents a thesis to the school, college, or academy where he wishes to get his degree, and in most cases a new subject is chosen.

There is no doubt that the Continental system of interesting the students in original research enables them in after years to take up the high positions they do in Chemical and Medical Sciences, whereas in Great Britain it is regrettable to see how little is known by chemists and professional men as to the proper means of studying a new product when it comes before them. I have repeatedly offered to Scientific Societies (whose interests one would think would have been to promote study) every facility to work out the chemical and therapeutical rôle of new products which reach this country, but it is not once in a year that I am asked to assist in providing samples to work upon; one cannot, therefore, wonder that Continental countries are so much in advance of us in original research, and that the verdict of a French or German worker should always meet with great respect. How often does an Englishman, compared with the foreigner, contribute anything towards our stock of knowledge in chemical or therapeutical original research?

The fault certainly lies at the door of those entrusted with the teaching of our students, and who, instead of encouraging them to take up original research, which is practically the best teacher of all, keep them bound down to the old fossilized lines, and render them practically useless as thoughtful workers.

Turning to the Surgeons, everything is done, by censure or otherwise, to keep them from medicinal investigation, though with their double experience they have an extra inducement to take up the study of therapeutics.

I cannot but believe that the restraint put upon all classes of scientists in this country, whether they be chemists, physicians, or surgeons, is responsible for the great paucity of English contributions to what is at the present moment the most important advance of the age, viz., original research and reports on new products.

The leading organs of the Press will soon find out that they are making a mistake by not lending a helping hand to original thinkers, especially their own countrymen. So much is this the case that it is a byeword: "Send your novelties to France or Germany, they will at once be published, and the English press will reproduce them." I am told that in commercial papers the fault of non-publication is often due to the matter being refused in any other form than as an advertisement. To give one instance of how the public appreciate Science, the *Globe* arranged with a well-known Professor to write a "Leaderette" on a fixed day each week, and this original matter was so much appreciated that the circulation rose in consequence.

THOS. CHRISTY.

Malvern House, Sydenham.
January, 1889.

N. Com. Plts & Drugs. N° 11 **Vernonia Nigriliana Ol. et Hirn *(Batjaujor)*.** Lith. Ch. Boehm. Montpellier

(Flora of tropical Africa T. III p. 288)

NEW COMMERCIAL PLANTS AND DRUGS.

No. 11.

VERNONIA NIGRITIANA.

Under the name of Batjitjor or Batiator, the root of the *Vernonia nigritiana* is sold in Senegal, it is credited with febrifugal, emetic, anti-hæmorrhoidal and anti-dysenteric properties by the natives. Messrs. Heckel and Schlagdenhauffen contributed to the *Archives de Physiologie*, August 15th, 1888, a paper on the subject of the Batiator, from which the following extracts have been taken:—

Botany.—Stem: lignous, from 30 to 70 ctm. high, with a rugous and rough epidermis (cystolithic hairs), simple or branched at its superior end (Pl. I., fig. 9), rounded and slightly furrowed when in a dried state. Leaves: alternate, oblong or elliptic; very acute apex, slightly coriaceous, and very rugous on both surfaces (cystolithic hairs); base cuneiform and attenuated to a very short petiole; margins even, but in the leaves at the base of the stem slightly dentate; length of leaves from 7 to 15 ctm., and width from 2 to 7 ctm.; these leaves gradually change their dimensions at the summit of the branches to pass into floral bracts. The branches at the summit of the plant terminate in divisions, crowned by one or two inflorescences, from 3 to 7 ctm. in diameter, multifloral, situated on bractate and rugous peduncles, and arranged in corymbs of several heads, very rarely solitary; the scales of the involucre are loose, linear and rugous; receptacle narrow, areolar, and glabrous; the aigrette, consisting of numerous filaments of about 2 ctm. in length, and being provided with barbed edges (see fig. 7). The corolla occupies the centre of the aigrette, is funnel-shaped and glabrous, having deep and acutely divided margins, and a reddish colour. The stamens are inserted at the

summit of the tube of the corolla, and near the divisions of the limb; the anthers, united in the form of a bundle, have two long cells, attenuated at the summit, where they are united in the form of a spatula (*ap.* fig. 3). Pollen grain, granulated, and hispid (fig. 4). The fruit is an actenium (fig. 6), with ten short nerves, covered with close but short hairs; the fruit is topped by the reddish-brown and rigid aigrette.

The root is the only part of the plant that has so far been used in medicine by the natives. It is fasciculate (fig. 8), each piece being from 20 to 35 ctm. in length and about 2 to 3 millimtr. thick at the base, provided with some thin long rootlets. Each part of the bundle is cylindrical, and covered with a brownish-yellow or greyish bark, which is longitudinally striated and often deeply annular, this appearance recalling that of Ipecacuanha. The root has hardly any odour, but its taste is slightly nauseous when a piece of the root is chewed for a short time. In the fresh state it is said to be bitter and nauseous, but the bitterness evidently disappears during the drying process, as none of the specimens tested were bitter. Each bundle consists of from five to ten roots, united at different points to a knotty spherical, uneven crown, covered at its superior end with long, close and cellular silky hairs, with a greyish and dense appearance. This tuft (fig. 8 *b*), which surrounds the crown and the neck of the root, is a characteristic feature (fig. 8 *b*), which is noticeable even at the base of the stem of the plant (fig. 8 *b' b''*). A transversal section of the root at its most developed part showed that (fig. 10) the bark consists of an unimportant epidermis, under which exists a cortical parenchyma, very homogenous and thick, with intervening sclerotic cells (*sp.*), grouped in different ways, but mostly by threes or fours, not far from the epidermis. Below the superficial cortical parenchyma there exists a suberous thin zone (*k*), placed over a thick zone of cortical parenchyma, which extends as far as the wood and the secondary liber. The latter (*l*) is situated between the lignous portion (*b*), and is remarkable for the number and size of its vessels, and for the large medullary rays (*r m*) in the form of crosses in the root, to which it gives a distinct character. These rays are not united to the pith (*m*), which, although manifestly in the centre of the root, is separated from the rays by a lignous circle.

The results of the chemical examination showed that the root

does not contain any Emetine or other alkaloid, but yielded the following figures:—

Parts soluble in chloroform, wax and fatty matters		0·774	
Soluble in alcohol—			
Sugar	3·640		
Glucoside, Resin, and Colouring Matters	12·580		
		16·220	
Soluble in water—			
Colouring and gummy matters ...	18·506		
Fixed Salts	1·854		
		20·360	
Lignous	57·435		
Fixed Salts	2·594		
		60·029	
Hygrometric Moisture		2·617	
			100·000

The glucoside, named Vernonine, consists of a white powder, slightly hygroscopic, whose solution is of a pale yellow colour; when evaporated it yields a resinous substance, colourless, and of which the most characteristic feature is its brown reaction when touched by sulphuric acid, afterwards becoming purple-violet. Its formula is C^{10} H O^{7}, and that of the resinous substance C^{4} H^{10} O^{3}.

The physiological experiments showed that the alcoholic extract in aqueous solution, injected under the skin of the thigh of a frog arrested the heart's action, as in the case with digitalis, convallaria, strophanthus, and other analogous drugs. The conclusions arrived at by the authors of the paper were as follows:—

1. That after the injection of Vernonine pigeons present symptoms of intoxication similar to those of digitaline.

2. That compared with other drugs acting on the centres of respiration, such as digitaline, convallaria, and strophanthus, Vernonine does not appear to be different in its action. The glucoside of Batiator root, therefore, is a poison acting on the frog's heart like digitaline, but to a degree twenty-four times lesser than with digitaline. The experiments of the action on the nerve centres showed that Vernonine may produce, under the electric current, slightly varying degrees of excitability of the right and left nerves' due, it was afterwards ascertained, to differences in the animal.

3. That both nerves invariably respond to electricity when at zero.

4. That its action on the muscles appears later than on the nerves.

After going into the physiological action of Vernonine on frogs, pigeons, monkeys, and rabbits, it was found that it paralyses the nerve motor centres, and that it has no power over the muscles.

I am indebted to the courtesy of Prof. E. Heckel for the above particulars, and the permission to publish the plate accompanying the same.

ALISMA PLANTAGO.

The use of the root of *Alisma Plantago* or Water Plantain for hydrophobia appears by no means to be recent. Dr. Withering, in his 'British Plants,' 7th Edition, Vol. II., gives the following interesting note :—"This acrimonious blistering plant is said to resemble Crowsfoot in its general qualities. Cattle are sometimes much injured, if not killed by it, as atrophy and paralysis supervene. Gray states that the juice is used for drying up milk in the breast. The tubers are recommended in hydrophobia ; especially in Russia, where their use was (in 1820) sanctioned by the College of Physicians of Moscow. The practice was subsequently made known in North America, and though specifics are not latterly in repute with the more enlightened of the medical faculty, it seems desirable to afford publicity to whatever may possibly relieve so dreadful a disorder." It is reported that an antidote to the poison of a rattlesnake was purchased by the Assembly of South Carolina from a negro, by giving him his freedom and an annuity of £100 for life. This remedy was derived from *Alisma Plantago.* Cattle that have eaten the *Alisma* have frequently become so paralysed that they could not stand. As death ensues from excessive stimulant action of the poison of the rattlesnake, and of the saliva of a rabid animal upon the muscular system, it is thought that a cure is effected by the peculiar sedative power of *Alisma* relaxing the spasms, and that it will be found effectual for the cure of these two dreadful maladies, as also of tetanus. The best mode of administering it, when the difficulty of swallowing comes on, is to scrape about an ounce of the solid root and let it be eaten between two slices of bread. The dose being repeated in an hour if spasms are not relieved. (Withering, Vol. II., page 404). Further investigation with regard to the active principles of the root might be useful. (*Monthly Magazine of Pharmacy.*)

BOERHAAVA DIFFUSA.

By W. A. Jayesingha,

Surgeon to the Civil Hospital, Kurunagala, Ceylon.

The *Boerhaava diffusa* is a common perennial procumbent weed, with opposite, more or less unequal, ovate or cordate leaves and loose pinacles of small red flowers, collected on small heads; it belongs to the natural order *Nyctaginaceæ*, and is known in Singhalese as Pitta sudu pala, and in Tamul as Mookorota, and was tried by me as a diuretic in the Government Civil Hospital, Kurunagala.

According to Dutt, the root is regarded as a laxative and stomachic used in jaundice, ascites, anasarca, scanty urine and in internal inflammation.

Sub-Assistant Surgeon B. M. Chatterjie, reports having found it a very good expectorant, and that he has prescribed it in several cases of asthma, with marked success. He employed it in the form of powder, decoction and infusion, but the doses and the proportions are not furnished. Taken in large doses it is said to act as an emetic.

The mode of administration adopted by me is the following, namely: two ounces of the plant are infused for half-an-hour in a pint of boiling water and strained. This quantity is administered in divided doses to one patient in the 24 hours.

The practitioners of Native Medicine in Ceylon consider it as one of the best medicines in dropsy, and give it in the form of a decoction, and locally as a fomentation in inflammation and rheumatism.

The following are the results obtained in nine cases under my care in which the use of the infusion of *Boerhaava diffusa* was indicated, and from which it will be seen that a great increase in the amount of urine passed resulted:—

Case No. 1.—Murugan; aged, 25 years; sex, male; race, Malabar; date of admission, 1st July, 1887. A coast Malabar cooly, residing in Kurunagala, was admitted into the Civil Hospital for anæmia of about 4 months standing, depending on repeated attacks of ague. He complained of great weakness; pain in the body, especially in the joints; inability for exertion, and shortness of breath. His conjunctivæ and tongue were pale and bloodless; heart's action accompanied with a billow's sound, abdomen much distended, feet œdomatous, bowels regular. He was put upon small doses of iron, and it was changed on the 6th July, for a mixture containing Quinine, as he became subject to ague. On the 20th he was put upon Infusion *Boerhaava diffusa*; during its administration the following results were obtained, viz.:

July	21	he passed	112	ozs. of urine.	August	4,	192 ozs. of urine.
,,	22	,,	144	,,	,,	5,	192 ,,
,,	23	,,	120	,,	,,	7,	192 ,,
,,	24	,,	80	,,	,,	8,	176 ,,
,,	25	,,	192	,,	,,	10,	168 ,,
,,	26	,,	176	,,	,,	11,	160 ,,
,,	27	,,	160	,,	,,	12,	192 ,,
,,	28	,,	208	,,	,,	13,	148 ,,
,,	29	,,	176	,,	,,	14,	160 ,,
,,	30	,,	192	,,	,,	15,	144 ,,
,,	31	,,	176	,,	,,	16,	180 ,,
Aug.	1	,,	200	,,	,,	17,	176 ,,
,,	2	,,	192	,,	,,	18,	192 ,,
,,	3	,,	176	,,			

From the 20th he was put upon small doses of Iron, with Tincture of Digitalis. He left the hospital cured on the 26th August, 1887.

Case No. 2.—Name, Mana Hona; age, 26 years; sex, female; race, Singhalese; residence, Hinagidne; duration of disease, 4 months; disease, anæmia; date of admission 16th July, 1887. An emaciated Singhalese female, with extensive general dropsy, depending on ague. Her state, on admission, was the following, namely: Her tongue and conjunctivæ were pale and bloodless, bowels regular, urine scanty, feet œdomatous. She was put upon Infusion *Boerhaava diffusa*. She passed on—

July	18,	46 ozs. of urine.			July	21,	80 ozs. of urine.
,,	19,	80	,,		,,	22,	48 ,,
,,	20,	48	,,				

On the 23rd she was put upon Tincture Margose ʒj. *(Melia azadirachta)*, three times a day, as she had fever.

On the 1st August Infusion of *Boerhaava* was again administered, and she passed—

August	3,	64 ozs. of urine.			August	15,	96 ozs. of urine.
,,	4,	84	,,		,,	16,	160 ,,
,,	7,	120	,,		,,	17,	128 ,,
,,	8,	72	,,		,,	18,	96 ,,
,,	9,	64	,,		,,	19,	80 ,,
,,	10,	41	,,		,,	20,	96 ,,
,,	11,	46	,,		,,	21,	88 ,,
,,	12,	112	,,		,,	22,	96 ,,
,,	13,	112	,,		,,	23,	80 ,,
,,	14,	80	,,		,,	24,	80 ,,

She was discharged from the hospital on the 25th August, cured of the dropsy.

Case No. 3.—Name, Ponnen; age, 23 years; male; anæmic; admitted into the Hospital on 17th July, 1887. A coast Malabar cooly, anæmic and dropsical. He was ill for a period of about 4 months and some 15 days. Swelling increased considerably. He was subject to frequent attacks of ague. His state on admission was the following, namely: Conjunctivæ and tongue pale and bloodless; heart's action feeble and accompanied with a billows murmur, abdomen much

distended, urine scanty, feet very much swollen. He was put upon Infusion *Boerhaava diffusa*. He passed—

July	19,	64 ozs. of urine.	July	26,	96 ozs. of urine.
,,	20,	96 ,,	,,	27,	64 ,,
,,	21,	96 ,,	,,	28,	80 ,,
,,	22,	112 ,,	,,	29,	112 ,,
,,	23,	64 ,,	,,	30,	90 ,,
,,	24,	64 ,,	,,	31,	106 ,,
,,	25,	96 ,,	August	1,	106 ,,

On the 2nd August he died suddenly from syncope.

Case No. 4.—Name, Rang Vine; aged, 15 years; sex, male. A Singhalese lad, admitted into hospital 25th July, 1887, for ague of about 8 days' standing. Had daily attacks in the mornings lasting till noon. Feet œdomatous. He was treated with Quinine, and from the 28th with Infusion *Boerhaava*. He passed—

July	29,	40 ozs. of urine.	August	10,	80 ozs. of urine.
,,	30,	32 ,,	,,	11,	80 ,,
,,	31,	32 ,,	,,	12,	64 ,,
August	1,	48 ,,	,,	13,	80 ,,
,,	2,	48 ,,	,,	14,	80 ,,
,,	3,	64 ,,	,,	15,	64 ,,
,,	4,	48 ,,	,,	16,	80 ,,
,,	8,	72 ,,	,,	17,	80 ,,
,,	9,	36 ,,			

He was discharged on the 25th August, cured of his fever and dropsy.

Case No. 5.—Name, Tikknale; aged, 35 years; sex, male. A very anæmic Singhalese man, admitted into the hospital on 25th July, 1887, for anæmia of about 3 years' standing, depending on ague. His abdomen distended; feet œdomatous. He was put upon pills containing Thymol, Opium and Santonin, suspecting the cause of anæmia was due to the presence of *anchylostome diodmale*. On the 28th July he was put upon the Infusion *Boerhaava*. He passed—

July	29,	44 ozs. of urine.	August	2,	32 ozs. of urine.
,,	30,	48 ,,	,,	3,	32 ,,
,,	31,	24 ,,	,,	4,	32 ,,
August	1,	32 ,,	,,	5,	32 ,,

He left the hospital on the 8th August, 1887.

Case No. 6.—Name, David Smyho; age, 20 years; sex, male. This patient was admitted into the hospital on the 31st July, 1887, for ague of about 8 days' standing. He was put upon Tincture Margose in drachm doses, three times a day, which cured his fever, but subsequently he became dropsical, when he was put upon Infusion of *Boerhaava*. He passed—

August	10,	30 ozs. of urine.	August	14,	110 ozs. of urine.
,,	11,	30 ,,	,,	15,	110 ,,
,,	12,	80 ,,	,,	16,	110 ,,
,,	13,	110 ,,			

He left the hospital on the 17th, cured of his dropsy.

Case No. 7.—Name, Eliza Hamy; age, 22 years; sex, female; This was a Singhalese female, admitted into the hospital on the

20th August, 1887, for anæmia of about 2 months' standing, depending on ague. Her legs began to swell 8 days since. She was put upon the Infusion of *Boerhaava*. During the period she was taking the drug she passed on an average 32 ounces of urine a day. She left the hospital improved.

Case No. 8.—Banebe; 30 years. A Singhalese man, admitted into hospital for anæmia, depending on ague. The spleen much enlarged, abdomen distended with fluid, feet œdomatous, bowels regular, urine scanty. He was put upon Infusion of *Boerhaava*. He passed—

August	12,	72	ozs. of urine.	August	19,	80	ozs. of urine.
,,	13,	80	,,	,,	20,	64	,,
,,	14,	84	,,	,,	21,	40	,,
,,	15,	64	,,	,,	22,	56	,,
,,	16,	112	,,	,,	24,	64	,,
,,	17,	64	,,	,,	25,	64	,,
,,	18,	72	,,				

He left the hospital on the 27th August, cured of his dropsy, and improved in general health.

Case No. 9.—Boeha; aged, 40 years. A Singhalese man, admitted 11th August, 1887, for anæmia of about one month's standing, depending on ague. His feet were œdomatous. He was put upon Infusion of *Boerhaava*. He passed—

August	14,	32	ozs. of urine.	August	17,	80	ozs. of urine.
,,	15,	64	,,	,,	18,	80	,,
,,	16,	112	,,	,,	19,	80	,,

The drug was discontinued on the 20th August, as he became subject to ague, when he was put upon Tincture Margose ʒj., three times a day. He left the hospital on the 24th August, cured of his dropsy and ague.

ANCHIETA SALUTARIS.

Among the plants of the Violet family (*Violaceæ*) is found *Anchietea salutaris*, called by some *A. palustris*, of St. Hilaire. It is said to be rather abundant in Brazil and Guiana, where it is looked upon as a kind of climbing vine. Its root, which is called by the natives Cipo, or Suma in Brazil, contains a yet little-known alkaloid Anchietine to which emetic and anti-catarrhal properties are accredited, which will some day or other attract more attention to it. It should not be forgotten, however, that a kind of emetine has been extracted from the roots of our own English violet, and that very little is yet known of its medicinal virtues, though it has been mentioned in the books for more than half a century.

NOTE ON SCHINUS MOLLE.

Some time back attention was called under the heading of "The Month," in the *Pharmaceutical Journal*, to some specimen samples of the fruit of *Schinus molle* (*Anacardiaceæ*), which were sent from Columbia to the London market as a speculation.

The properties of the order are well known and of practical importance in pharmacy, and it will be only necessary to instance—

Pistachia Lentiscus, yielding the mastic resin; *Pistachia Terebinthus*, from which Chian turpentine is obtained; *Anacardium occidentale*, containing the vesicant body, cardol; and *Rhus toxicodendron*, with its caustic properties.

The specific name *mollé* is that which is given by the Peruvians to the shrub, or *mulli* (the "Treasury of Botany" II., p. 1030). Different parts of the plant are variously used in Peru and Brazil. From the stem exudes a mastic-like resin, which is called "American Mastic." It has a strong and agreeable odour and purgative properties. Both the bark and the root are also employed medicinally in Peru. The former, with the leaves, are applied as remedies against ulceration, and wounds generally, and from the leaves a yellow colour is obtained. The smaller twigs are used as toothpicks, and, finally, the sweet fruit is used for making vinegar, syrup, and pleasant drinks, and also, as I am informed, for decorative purposes, for which its bright coloured exterior fits it. It will thus be seen that the plant has numerous and interesting uses.

The leaves of *Schinus molle* are unequally pinnate, having, in the particular specimens exhibited, from 30 to 40 leaflets, varying in length between 1 and 2 inches. These are lanceolate, rounded at the base, and tapering towards the apex. They are dark green on the upper surface, and paler on the under, glabrous and serrate at the margin. The terminal leaflet is somewhat larger, and all are sessile. The leaves contain an essential oil very similar to that of the fruit, together with resinous matter, both of which can be readily detected by the sense of taste, or touch, or both. The fruit head is in the form of a panicle about 8 inches in length, and 3 to 4 in breadth and bracteate.

The fruit itself is a drupe with a very fragile, thin, and coriaceous epicarp, of a beautiful more or less roseate colour, within which is suspended the endocarp and albuminated seed. The seed is brown in colour, of a very dense structure, more or less pitted, and containing the flat cotyledons. The fruit is very rich in volatile oil, which is abundantly pressed out when it is cut with a knife. It has a taste similar to that of fennel and pepper, with a slight acridity.

About two ounces of the fruit yielded 3·357% of pure oil. The latter is colourless, has a fennel-like odour, and a similar mild

taste. It is soluble in ether and alcohol. The specific gravity is exceedingly low, viz., 0·830 at 50° F. Considerable curiosity was felt about the resinoid body, which it was thought was probably contained in the fruit, and it was found to be present to such an extent that the powdered seed, by simple manual pressure, was "balled" together like a common resin. From the crushed fruit extracted with ether of S. G. 0·720, was obtained after evaporation on a water bath of the ethereal solution, 14·62 % of extract of a pale brown, clear and lustrous appearance, resembling both in the latter quality and consistence, Venice turpentine. It was soluble in ether and alcohol, and had a slightly pungent and acrid taste, with an aromatic juniper-like odour.*

In the event of larger quantities of the drug reaching this country, more minute and extended examination both of its constituents and of their properties would be interesting.

HEDGWIGEA BALSAMIFERA.

From the *Hedgwigea balsamifera* is obtained a resinous matter, caked together like Gum Benjamin, with a strong pungent and not disagreeable odour, somewhat recalling that of Elemi. I exhibited at the meeting, held in Cologne, of the German Natural History and Medical Society, two torches made by natives of the Island of Porto Rico, and presented to me by Dr. A. J. Amadeo, who informs me that the resin contains an oil, which is used in diseases of the stomach. This oil, a bottle of which I also exhibited at the above meeting, is of a clear golden colour, and has all the fragrant properties of the resin. In the *Comptes rendus* (Paris, cvii., 544), was published a paper by MM. Gaucher, Combemales and Marestang, in which the physiological action of the root, stem and resin of this plant, which is also known as "Bois cochon" and "Sucrier de Montagne," was reported upon. Experiments on guinea pigs and rabbits, showed the root and stem to possess poisonous properties. They ascertained that the toxic ingredients were an alkaloid and a resin; the latter paralysed firstly the hind-quarters, then the spine; the temperature of the body decreased, and the viscera and lungs became much congested. The action of the alkaloid appeared to be less powerful than that of the resin.

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* According to H. Helbing.

THE TREATMENT OF EPILEPSY BY SIMULO.

By W. HALE WHITE, M.D.,*

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Simulo is the fruit of the *Capparis coriaceæ*, a member of the Hyssop family, found in Bolivia, Peru, &c. Out there the fruit is powdered and taken in wine. In England Messrs. Christy & Co. have prepared a tincture from the seeds. Dr. Larrea† reported that he cured himself of epilepsy by taking the drug. Dr. Hutchinson‡ found that it was totally useless in a case of severe hysterical fits, and also in a case of severe epilepsy. I have tried it in the following cases. (The quantities of each drug given are expressed in single doses, the medicine being always given thrice daily):—

Case No. 1.—Arthur J——, aged seventeen, has severe epileptic fits, which last for a quarter of an hour and the stupor for three hours. No family history of fits.

Week.	No. of Fits.	Drug.
1st	33	Tincture of Simulo, 1 dr.
2nd	28	,, ,, 1½ dr.
3rd	35	,, ,, 2 dr.
4th	42	,, ,, 2 dr.
5th	0	Bromide of Potassium, ½ dr.
6th	6	No drug given.
7th	25	,, ,,
8th	26	Bromide of Potassium, ½ dr.
9th	52	,, ,, ½ dr.
10th	25	,, ,, 2 dr.
11th	26	,, ,, 2 dr.

After this the patient passed from observation.—*Result:* Neither Simulo nor Bromide of Potassium was of any particular benefit.

Case No. 2.—William P——, aged sixteen. Has been in several hospitals for epilepsy, where he has always been treated with Bromide of Potassium. Fits typical, numerous, severe; no family history.

Week.	No. of Fits.	Drug.
1st	6	...Bromide of Potassium, 15 gr.
2nd	4	...Tincture of Simulo, ½ dr.
3rd	3	,, ,, 1½ dr.
4th	17	,, ,, 1½ dr.
5th	2	,, ,, 1½ dr.
6th	6	,, ,, 1½ dr.
7th	3	,, ,, 1½ dr.
8th	11	,, ,, 1½ dr.
9th	1	,, ,, 2 dr.

He thinks that for the last two months, during which he has had Simulo,

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* Reprinted *in extenso* from the *British Medical Journal.*

† Brit. Med. Journal, vol. i., 1885, p. 1184.

‡ New Commercial Plants and Drugs, No. 10, p. 92.

the fits have been both less numerous and less strong than during any other period of his illness.

Week.	No. of Fits.	Drug.
10th	19*	Bromide of Potassium, 20 gr.
11th	3†	Tincture of Simulo, 2 dr.
12th	3†	,, ,, 2 dr.
13th	4†	,, ,, 2 dr.
14th	11*	,, ,, 2 dr.
15th	2	,, ,, 2 dr.
16th	11*	,, ,, 2 dr.
17th	2	Bromide of Potassium, ½ dr.
18th	3	,, ,, ½ dr.

The patient was kept under observation six weeks longer, during which he took half-drachm doses of Potassium Bromide. He had no more fits. *Result:* Simulo seemed to be of benefit, for when left off at the end of the ninth week the fits were very bad again, but they diminished directly it was continued.

Case No. 3.—William L——, aged twelve.

Week.	No. of Fits.	Drug.
1st	16	No drug given.
2nd	10	Tincture of Simulo, 1 dr.
3rd	8	,, ,, 2 dr.
4th	0	,, ,, 2 dr.
5th	4	,, ,, 2 dr.
6th	4	,, ,, 2 dr.
7th	0	,, ,, 2 dr.

Result: The fits diminished in number whilst the patient was taking Simulo.

Case No. 4.—Owen M——, aged twenty-three. During the last winter he has had frequent, severe, typical epileptic fits; no family history of epilepsy. On admission, February 5th, he had one fit, and on the 7th three fits. He had one fit on each of the following dates: Feb. 8th, 10th, 13th, 14th, 20th, 23rd, 25th, March 2nd, 7th, 23rd, and April 5th and 20th. On May 3rd he left the hospital. He was treated all the time with large doses of Bromide of Potassium and Ammonium. He was readmitted on October 12th. A fortnight after his discharge the fits began again. Since then he has had on an average three a week. On October 13th he had one fit, on the 15th one, and on the 16th one; on the 17th he was given one drachm of Simulo three times a day. On November 2nd he had one fit, and on the 3rd two fits. On November 17th he was discharged, having only had three fits during the month he took the tincture of Simulo.—*Result:* Fits decreased whilst taking Simulo.

Case No. 5.—Henry W——, aged twenty-five. Has had occasional fits since he was twelve years of age. During the ten days previous to admission he has had fourteen or fifteen very severe epileptic fits. During the day of admission (May 28th) the patient had a series of severe fits. Six hours after admission he was given a drachm of Simulo every four hours. On May 29th he had seven fits, on the 31st two, on June 1st one fit, on the 2nd to the 6th none, on the 7th one, on the 7th to the 18th none. The Simulo was continued in the above doses during the whole of his stay. On December 30th he came as an out-patient, no

* Severe. † Slight.

more fits had occurred till the previous week, when he had four. He did not come again.—*Result:* The patient improved whilst taking Simulo.

Case No. 6.—Florence ——, aged fifteen. During the last nine months she has had a fit about once a month. It is difficult to say whether they were hysterical or epileptic. The last one occurred three days before being seen. She attended as an out-patient for two months, and took one drachm of tincture of Simulo three times a day. During this time she had no fits.—*Result:* Improved whilst taking Simulo.

Case No. 7.—W. L.——, aged thirty-four. When twelve years old he had seven fits in a week, after which he lost the use of the right arm for three days. Each fit had an aura. At the age of sixteen another similar fit occurred. Since then he has always had periodical attacks of twitchings of the right side of the face and right fingers. He was in the London Hospital at the age of sixteen for two months, during which he took Bromide of Potassium. He was again there four years and a half ago, with the same treatment. He was in Guy's in 1884, under Dr. Wilks, who diagnosed the case as one of "unilateral spasms without loss of consciousness, following previous epileptic attacks." On admission in October, 1887, he said that for the last four years he had been in the constant habit of taking Bromide of Potassium in large doses; he had a very severe bromide rash. There was constant powerful twitching of the right side of the face and the right upper extremity, especially the forearm and fingers. There were paresis of the right side of the face, the right upper, and slightly of the right leg. He was given one drachm of the tincture of Simulo thrice daily. Under this he rapidly improved, and was discharged in a fortnight. Before leaving the hospital he was so much better that he was able to sew rings on curtains, and the rash had almost gone.—*Result:* Considerable improvement whilst taking Simulo.

The tincture of Simulo is by no means nasty, and mixes very well with water. None of my patients have complained of any ill effects from the prolonged use of the drug. I have swallowed large doses of it myself, as has also a friend of mine; we neither of us noticed any symptoms whatever. I gave it to a child for a month in the early stage of cerebral tumour, without producing any effects. In my own case, it did not diminish at all the power of grasp, as tested by the dynamometer. It will be a great boon if some other drug than Bromide of Potassium can be discovered for the treatment of epilepsy, provided that it be as efficient; for, as is well known, the long-continued use of bromide of potassium often produces disagreeable results. In the last case I have narrated it will be observed that the patient on admission was covered with a profuse bromide rash, which entirely disappeared whilst he was taking Simulo. I would not for a moment have it to be thought that, from these few cases, I claim for Simulo that it will cure epilepsy, but in many of my cases there seemed to be a distinct improvement whilst taking the drug, and therefore it seemed worth while to publish them, in order to induce others to employ it, so that the profession should more quickly learn whether it be efficacious. In trying the effect of it, care must be taken to select suitable cases, for, whilst there are many so severe that no drug will benefit them, there are others so slight that it is difficult to say whether any improvement is due to the treatment or to the natural course of the disease; and, lastly, in the case of out-patients, one must be careful to choose such as are capable of being trusted to keep a written record of the fits and to take the medicine regularly.

PICHE.

(*Fabiana imbricata.*)

Under the name of Piché the *Fabiana imbricata* is known in Chili, Peru, and the Argentine Republic for its prompt and decisive action in diseases of the liver and in the urinary passages. This shrub, which might from its appearance be taken for a Conifer belongs to the *Solanacœa*, and grows on dry elevated slopes. It is remarkable for its light bluish-green branches, which contrast very much with the surrounding vegetation. The branches are subdivided into smaller ones, which are rounded, thin, covered with imbricated scales, which are really only thickened leaves, oval and acute in shape, of a length of about $\frac{1}{10}$-inch, and overlapping one another. Its flowers, which only appear in the second year, are placed at the extremity of the smaller branches, and are solitary; the calyx, which closely surrounds the ovary, is green, then yellowish, thick, with 5 long and obtuse lobes; the corolla is gamopetalous, with a tube dilated at its superior end, its throat is slightly compressed, lobes short, semi-circular and small; stamens, five, inserted in the tube of the corolla; anthers short, bilocular, opening longitudinally.

The fruit is oblong, ovoid, crustaceous, light brown, about two inches in length; the seeds are ovoid, nearly angular, with a crustaceous testa.

In commerce Piché consists of the stem, branches, and leafy branches; the large branches are from $\frac{3}{4}$ to $1\frac{1}{2}$ inches in diameter, covered with a thin smooth bark, slightly wrinkled longitudinally, ash-grey in colour, and having tuberculous protuberances. The smaller branches are from $\frac{1}{10}$ to $\frac{1}{4}$ inch in diameter, of a darker colour than the preceding, and present at regular intervals distinct evidence of the place where the small leaves are inserted. The wood is of a yellowish-white colour. All these parts of the plant are covered with a greenish or greenish-grey resin, which would appear to protect the surfaces of the plant, and so prevent the too rapid evaporation of its moisture during the very long dry seasons to which it is subject. It is now being cultivated in Europe.

Piché is specially indicated in catarrhal inflammation, renal colic, prostatis, cystitis, musky residual urine, renal calculi, and inflammation of the ureters, &c.

By kind permission our shorthand writer was enabled to take

down the following notes of a lecture delivered at St. Peter's Hospital for Urinary Diseases March 21st, 1888, on "Therapeutical Innovations," and which especially refer to Fluid Extract of Piché:—

"We now approach the consideration of remedies for the relief of the pain of renal stone.

"A number of drugs for this purpose have been placed before the profession for the last four or five years, such as Piché, Holarrhena, Asteracantha, Stigmata maidis, &c., and of these I invariably select the Piché first. The Piché is one of the tobacco tribe, and is specially useful where the patient has all the characteristic signs of stone or grit in the pelvis of the kidney. My attention was first drawn to it in rather a curious manner. I was in the Engadine, and I learnt that the proprietor of the hotel at which I was stopping was suffering from stone in the kidney, but that he was able to alleviate the pain and bleeding by taking a decoction of a plant which he received every mail from Chili. On investigation I found that this plant was the Piché *(Fabiana imbricata)*, and on my return home I made enquiries and found that it was attracting considerable attention in France : Dr. Lucien Boyer having introduced it to the Society of Practical Medicine. I obtained some of the plant through Messrs. Christy & Co., and was so pleased with it in cases of renal grit and pain that I have latterly used it largely, either in conjunction with alkali drinks or by itself. The only contra-indication to its use is in those cases in which inflammation of the kidney co-exists. It is given in the form of the extract or decoction. A few cases will suffice to show its capabilities.

"H. P., æt 30, had for two years, off and on, been passing small stones, one of which became impacted in the membraneous portion of the urethra, and required extraction. The size of the stones were about the size of a three grain pill, the pain was on the right side. He had no frequency or hæmaturia. After being placed on the Lithia Water treatment, he was given Piché and experienced great relief, the pain ceasing and the water becoming clear. Unfortunately, however, my supply of Piché failed, and his pain returned. I therefore placed him upon Asteracantha. Obtaining no relief from this I next gave him Holarrhena tincture, on which he improved.

"I now obtained more Piché, and the pain which he suffered in the right leg, up the right side, and in the right renal region was almost immediately relieved. He writes me that the Holarrhena is more of an appetiser, affecting the stomach rather than the kidney ; and that the Piché has more power over the pain, is not so much of a tonic, and rather tends to constipate.

"M. K., 55, had been passing at intervals for some years small renal calculi, and had suffered from occasional attacks of renal colic. After trying various drugs he was recommended by me to supply himself with Piché. He finds that on taking the Piché a large quantity of urine is voided, and with it there not infrequently appears one or more small calculi. Being an army medical man and ordered to the East, he has taken with him a sufficient quantity of the drug to relieve the recurrent attacks from which he suffers. He assures me that he would not be without the drug, which has proved to him an invaluable remedy.

"A. G., æt 40, has passed small stones and now suffers from

recurrent attacks of renal colic. Was slightly relieved by the Lithia and rain-water treatment, was almost immediately relieved by Piché.

"With regard to the effect of Piché upon the inflammatory conditions of the bladder and urethra, such as urethritis prostatitis and cystitis. (acute, subacute, and chronic) I have had but little success. It is true that in a few instances of subacute cystitis and in murky residual urine from atony I have found Piché to be of some use in clearing the urine and relieving frequency, but I have not noticed the very rapid and marked relief which others ascribe to it. I now restrict its use to treating renal calculi and inflamed conditions of the *ureter*, and find it has greater influence over those cases in which Sulphocyanide is observed to be in excess in the saliva, *i.e.*, in the uric acid diathesis. I usually administer 3 ss. to 3j in water thrice daily. Stigmata maidis I usually reserve for cases of scrofulous pyelitis."

Dr. J. H. Tressel, of Alliance, Ohio U.S.A., in *Therapeutic Gazette*, p. 240, 1888, has published some clinical notes on the action of fluid Extract of Pichi, from which we take the following particulars :—

Case 1.—Mr. E. ; American ; age 60 years ; farmer. In September, 1887, he had the misfortune to be run over by a wagon, receiving an injury to the lower part of the abdomen from which he suffered considerably, the inflammatory action in the parts being somewhat severe.

It was noticed that on standing his urine showed an abundant muco-purulent deposit. It was, of course, cystitis. I then determined to use fluid extract Piché *(Fabiana imbricata)*.

I prescribed 10-drop doses every three hours, withdrawing all other treatment. In ten days he returned, reporting that he was "somewhat better." I again prescribed Piché, with a strict injunction not to take more than 20 drops, but as before he heedlessly increased the portion, taking about 40 drops of the fluid extract. This dose caused nausea with a burning distress in the stomach, and he suffered from an indescribable sensation in the throat. He immediately came to me. I gave him a sound lecturing for disobeying instructions as to dose, and directed him to rest from treatment for a day or two, and then to continue at the dose last prescribed (20 drops). He followed my directions implicitly this time, and he has continued to improve until the present.

He reports that he is feeling quite well. The abnormal deposit in the urine has entirely disappeared, and the indications are favourable for a permanent recovery. Treatment has been discontinued.

Case 2.—Mrs. M.; Welsh ; age about 45 ; housewife. Had been afflicted with intense pain in passing urine for two days, when she called at my office for treatment. There was an abnormal quantity of uric acid deposited when the urine was allowed to stand a short time, and the urine was very acrid, severely excoriating the parts with which it came in contact.

I then gave her fluid extract Piché in 10-drop doses every two hours. After the fifth dose she began to experience relief. When the eighth dose had been taken she expressed herself as being so much better that the interval between doses was lengthened to four hours.

The treatment was continued for two days longer, at the end of which time the remedy was withdrawn, there being no reason for its further use.

Case 3.—Miss H.; American; age 18 years; student. Was taken ill with malarial fever, which continued about three weeks, when she began to convalesce.

But she now commenced to complain of severe pain when she urinated. The urine showed only a slight excess of uric acid. There was hyperæsthesia of the neck of the bladder and of the urethra. Remembering my success with Piché, I at once prescribed 10-drop doses of the fluid extract every two hours, and after the third dose there was some relief. The size of this dose, or the short intervals, caused some nausea, however, and I was sent for at once. On arriving I ordered the intervals of administration to be lengthened to three or four hours. The nausea then ceased, and the pain caused by the act of micturition gradually diminished, so that at the end of the third day from the beginning of the treatment she felt entirely relieved, and medication was discontinued without any return of the unpleasant symptoms.

In the "*Therapeutic Gazette*" (Sept. 15th, 1888, p. 594), Dr. F. Gundrum relates at considerable length his experience with Fluid Extract of Piché in a severe case of gonorrhœa extending into the prostate and bladder. After describing fully the symptoms he noticed and the mode of treatment first adapted, which proved valueless, he goes on to say :—

"Thirty drops were given, well diluted, at 8 p.m. By 9 p.m. the patient had used the vessel five times (to urinate); pain as severe as ever. By 10 p.m., four times, less pain and spasm, and comfortable while in bed. From 10 to 11, three times, still better; from 11 to 12, twice, when he received the second dose of fl. ext. Piché, 30 drops; from 12 m. to 2 a.m., urinated once, almost free from any pain; urinated again at 6 a.m.; no spasm and very little pain. From this time on everything went well. The desire to urinate became less frequent; pain and spasm entirely subsided.

"I must express my surprise at this magic effect. I was certain that we should find relief only by operative procedure. On the sixth day all symptoms of bladder disturbance had subsided, and our whole attention paid to a severe swelled testicle, when, after suspending Piché for four days, the old symptoms appeared, which were quickly relieved by Piché again.

I have related this case at considerable length and minuteness, if not tediousness, to show how severely gonorrhœa may attack the prostate and bladder, and what an efficient and prompt remedy we have in the fl. ext. of Piché."

In the same Journal (p. 368, 1888), Dr. Peyton Green reports upon several cases in which he used Fl. Ext. of Piché, and speaks as follows of its value :—

"If given a fair and conscientious trial it will be found to have a wide range of usefulness, being especially beneficial in cases of uric-acid diathesis, renal and vesical calculi, excess of the phosphates, and catarrhal conditions of the urinary tract. Its use seems to be contra-indicated in renal disease where destruction of tissue and degenerative changes have taken place; hence it should not be given in albuminuria, in which morbid condition it is said to be not without harmful effects.

MUDAR.

By W. A. Jayesingha,

District Medical Officer for Balangoda, Ceylon.

Calotropis gigantea (R. Brown) is a tree or a shrub growing to a height of about 15 or 20 feet, belonging to the natural order *Asclepiadiaceæ*, growing almost all over the island, especially in the hotter parts. It is known in Singhalese as Wara, in Tamil, as Yarrakum, and in Hindustani, as Madar. The parts used in medicine are the root, bark, and the milk, obtained by making incisions into the tree,

Dr. Waring in his "Bazaar Medicine," gives the following directions for the preparation of the root :—"The roots should be collected in the months of April and May from sandy soils, and all particles of sand and dirt having been carefully removed by washing, they should be dried in the open air, without exposure to sun until the milky juice contained in them becomes so far dried that it ceases to flow on incisions being made. The bark is then to be carefully removed, dried, reduced to powder, and preserved in well-corked bottles."

Dr. Ainslie, in "Materia Indica," says "that the milky juice of the plant when carefully dried has powerful alterative and depurative effects, and is infinitely more efficacious than the dried root bark."

The root bark and the juice of this tree have for many centuries been held in high esteem by the natives of India as emetic, purgative, and diaphoretic. Dr. O'Shaughnessy, who made extensive trials of the root, has formed a high estimate of its value; according to him, in doses of 30 to 60 grains, it proves emetic after an interval of from 20 to 60 minutes, generally causing much nausea, and in about one case out of three inducing cathartic operation; in doses from 2 to 5 grains every half hour, it proves nauseant, diaphoretic, and after several doses, gently cathartic; on the whole he considers it an excellent substitute for Ipecacuanha.

Drs. Playfair and Robinson, speaking highly of its efficacy state that "in early stages of leprosy, before the eruptions become pustular, there is no medicine from which more benefit is to be obtained than this."

In secondary syphilis, Dr. Robinson regards Mudar as a highly valuable remedy where mercury has been extensively employed; under its use the general health becomes improved, ulcers heal, and blotches from the skin disappear. In dysentery it has been highly spoken of; in severe cases large doses from 20 to 60 grains are recommended for adults. In the Bengal Pharmacopœia it is used as substitute for Ipecacuanha in the preparation of Dover's Powder thus :—Powdered bark of Mudar two drachms, Opium one drachm, and Sulphate of Potash eight drachms.

The root bark of this tree was used in the treatment of parangi disease by me in the Civil Hospital Kurunagala, during the time I was

there as assistant medical officer ; only in two cases emetic and purgative properties were observed. The following are the results obtained by this drug :—

Case No. 1.—Ukku, aged 10 years, Singhalese female, single, from Katupitiya has suffered for one year from rupial parangi. A Singhalese girl rather anæmic and emaciated, from Katupitiya, a village about 10 miles from Kurunagala, was admitted into hospital on the 5th March, 1887, suffering with the rupial form of parangi disease ; she gave the following as the history of her illness : — Father living, mother died about six years ago, has only one sister. The father and sister are not attacked with the disease, but there are many suffering with it in the village ; states that the disease appeared as a small boil on the lower third of her left leg which turned into an ulcer and continued unhealed for about three months, the cicatrix of the ulcer is still to be seen. About 10 days after the healing of the ulcer, eruptions appeared round the cicatrix without any constitutional disturbance. After this in the neighbourhood of the joints, then on the trunk, and lastly on the face. On the appearance of the eruptions the patient was kept isolated without any treatment for about four months, then she was put upon China root *(Smilax China)*. The following was the mode of treatment, namely, about two ounces of China root (eight calandas) were boiled in eight cupsful of water, and a cupful was given morning and evening for seven days, and the refuse of the decoction was dried and powdered and made into small cakes (rotie), with rice flour, and was given morning and evening for another seven days. A bath morning and evening was administered during this period. The diet was simply-boiled rice without salt. Under this treatment eruptions began to fade, but as fresh eruptions began to appear she came to the hospital for treatment. Present state rather anæmic, has eruptions with large yellowish crusts on the face, hands, and in the neighbourhood of joints, also complains of running pain along the limbs increased at night. She was put upon the bark of the root of *Calotropis gigantea* in ten-grain doses three times a day ; on the second day of the treatment she began to suffer from diarrhœa and vomiting, the powder was reduced to two grains, and was given in combination with opium, this was continued till the 18th instant, when it had to be discontinued as diarrhœa set in, also scabs began to fall. She was discharged from the hospital on the 24th March quite cured of the eruptions, only having dark spots marking the place of eruptions.

Case No. 2.—Puhula, age 48 years, a Singhalese, male, married, from Ihalaatta, cultivator, parangial ulcer six weeks old. This patient was admitted into hospital on the 24th March, 1887, with a large unhealthy ulcer on the outer side of the left ankle of about six weeks standing, brought on by scratching ; also complained of running pain along the limbs, increased at night. He suffered from parangi disease when young ; he was put upon three grain doses of powdered *Calotropis gigantea* root bark three times a day, and poultices were applied to the ulcer. He left the hospital on the 2nd April at his own accord, being relieved of his running pain along the limbs and the ulcer much improved in appearance.

Case No. 3.—Silindu, aged 25 years, married woman, Singhalese, from Galataweve, had parangial ulcer and eruptions for three years. A weakly, emaciated Singhalese female, admitted into hospital with parangial ulcers of about three years standing. The following is the history of her illness : both parents died some years ago, father from diarrhœa, and mother from fever, has a sister younger than herself ; parents and sister were free from the disease. She married about five years ago; the

husband was suffering with the disease at the time ; a short time after her marriage the disease appeared on her as a small ulcer at the left ankle joint, which became converted into an unhealthy ulcer, which is still not healed. About a year after the appearance of the ulcer, eruptions showed themselves in the upper extremities and neck, preceded by fever and pain in the body for about two days. Some of the eruptions healed without treatment, others became ulcers. Present state : general health broken down, has an unhealthy, irregular-shaped ulcer on the right side of the forehead about the size of a crown piece, another on the inner side of the right elbow joint, with patches of eruptions covered with yellowish crusts surrounding it ; also small ulcers grouped together with overhanging edges at both the ankle joints, complains of running pain along the limbs at night. She was put upon 3-grain doses of the powdered root bark of *Calotropis gigantea* three times a day, and simple dressings were applied to the ulcers. She left the hospital on the 5th April with the ulcers on her forehead and elbow healed, and those of the legs in a healing state.

Case No. 4.—Valee, aged 10 years, female, single, Malabar Race, from Kurunagala, parangial ulcer of one year's standing. This was a coast Malabar girl admitted into hospital on the 7th March, 1887. The following is her history. States that she has no recollection of her arrival at Ceylon, and about three years ago she, with her parents, came to Kurunagala to work on the road ; about two years ago her parents died. Since then she has been living with an uncle. About a year ago a Singhalese woman with parangi disease came to live in the same lines, and the patient used to frequent that part of the lines and to assist her in her work ; after some time eruptions appeared : first in the chest, then in the armpits, and lastly on the forehead. For these she was received three times previous to this into the hospital, and left it partly relieved each time. Present state : General health fair ; she has a patch of eruptions on the forehead, similar patches on the armpits and on the legs ; these are much raised above the surrounding skin and covered with yellowish crusts ; the present crop of eruptions is about three months standing, and appeared preceded by fever, pain in the body for three or four days ; has also running pain along the limbs. She was put upon the powdered *Calotropis gigantea* in 3-grain doses three times a day, and poultices were applied to the eruptions. She left the hospital with all the eruptions dried and scabs ready to fall on the 9th April, 1887.

Case No. 5.—Muniandy, aged 10 years, male, single, Malabar race, from Kurunagala, parangi eruptions, of about two years standing. This was a Ceylon-born Malabar lad, admitted into hospital on the 18th March, suffering with parangi eruptions, of about two years standing, and giving the following as the history of his illness :—Both parents died about two months ago from ulcers, which the patient considers to be parangi, has four more brothers and sisters younger than himself, but not affected with parangi disease ; states that the disease first appeared as a boil on the right knee, which ulcerated and healed within a month ; soon after eruptions appeared on the buttock, preceded by fever and pain in the body for a few days, on which he attended the hospital and left partly healed. After some time the disease reappeared and he came again to the hospital for treatment. Present state : General health fair, has eruptions on the bridge of the nose, genitals, margin on the anus, buttocks, and in the neighbourhood of joints ; has also running pain along the limbs increased at night. He was put upon the powdered root bark of *Calotropis* in 3-grain doses, and poultices were applied to the eruptions. He left the hospital with the eruptions healed on the 11th April, 1887.

Case No. 6.—Mangonona, a married female, aged 25 years, Singhalese, born in Veyangoda, residing in Kurunagala. This was a

Singhalese female brought into hospital by her friends, suffering with constitutional syphilis, on the 15th March, 1887. She was very emaciated, general health much impaired ; when admitted she had unhealthy ulcers on the right eyebrow, on the bridge and aliæ of the nose and upper lip ; her soft palate was also ulcerated, and liquids return through the nose on attempting to swallow. She was put upon 3-grain doses of the powder three times a day, on the 4th day her bowels became irritable and diarrhœa supervened. The powder was then combined with Opium. Under this treatment ulcers were taking healthy action, and she was improving in health, when she had a relapse of diarrhœa and was removed from the hospital by her friends.

Case No. 7.—Anthony, male, aged 18 years, Singhalese, born at Colombo, residing at Narauwela, had suffered from parangi for one year. A rather emaciated and a weakly Singhalese man, admitted into hospital suffering with parangial eruptions on the 28th March, 1887, and gave the following history of his illness :—States that he is a native of Colombo, and came to Kurunagala with his parents when very young. About two years ago he went to Narauwela village, about 12 miles away from Kurunagala on the Negomba road, for the purpose of cultivating land and opening a boutique. His father died a year ago from some disease or other, and mother living and in good health. Has two brothers older than the patient and in good health. States that the disease appeared on him as a small pimple on the left armpit, which ulcerated and formed into a sore, and about three months after the appearance of the sore small eruptions like pimples appeared first on the back, next on the abdomen, then on the thighs, scrotum, and prepuce, for which he attended hospital and left it in a healing state, but one month after the disease aggravated. State on admission : Much emaciated, and general health much broken down ; has eruptions all over the body, covered with thick, raised, yellowish crusts, with the exception of the face. These are said to be itchy, and complains also of running pain along the limbs increased at night. He was put upon 3-grain doses of the powdered bark three times a day, and he was bathed daily with a decoction of the leaves. He left the hospital on the 18th April much improved in health, eruptions dry, and scabs falling.

LANTANINE.

This is an alkaloid discovered by Buiza & Negreta, of Lima, in the Yerba Sagrada (*Lantana brasiliensis*), one of the Verbena family. This alkaloid acts upon the circulation, retards the nutrition, and at the same time reduces the temperature ; it is borne well by the weakest stomach. Two grammes of Lantanine are said to have cured intermittent fevers where Quinine failed. As an antipyretic 1 or 2 grammes in 10 centigramme pills are given in the twenty-four hours. In intermittent fever Lantanine should be given immediately after the paroxysm, and it is said that in 99 cases out of 100 the fever will not again appear. The tincture of the herb is so intensely bitter that it would be useless to prescribe it.

These results have not as yet been confirmed in this country, as no raw material has been obtainable to enable the necessary experiments to be made.

EUGENIA JAMBOLINA.

The value of Jambul in cases of diabetes has not so far been conclusively proved, and I therefore give all the information I have been able to secure, in order to enable the profession to form some sort of opinion upon a drug which, if it really performs what is claimed for it, would be hailed as one of the most important additions to recent *Materia Medica.*

It will be seen from the reports which follow that in many cases Jambul does certainly appear to have been of benefit, whilst in others it failed entirely. To account for this strange uncertainty in the action is, with our still imperfect knowledge of the chemistry of Jambul seed, somewhat difficult. Some explanation may be looked for by workers in the process of drying the seed, but although this may be a correct view to take, there is the fact that seed taken from one bag received from the East Indies has yielded totally opposite results in the hands of medical men.

It is no longer a subject of doubt that Jambul seed has the power to prevent the transformation of starch into saccharine matter, and I am greatly indebted to Dr. T. A. E. Balfour, of the Royal College of Physicians of Edinburgh, and his co-worker, Dr. G. Sims Woodhead, for the following important evidence on the behaviour of Jambul in the presence of Starch, and also on the results obtained with it in a case of diabetes :—

REPORT ON THE THERAPEUTICS AND CHEMISTRY OF JAMBUL SEED.

By Dr. T. A. E. Balfour.

Notwithstanding the careful experiments and observations which have been made, and the volumes which have been written on *Diabetes Mellitus*, we cannot yet affirm that we have an accurate knowledge of its pathology ; and hence, having no true scientific basis on which to found our treatment, it is no wonder that the remedies proposed should have been so numerous, and should have afforded such an ample field for hostile criticism ; one author denouncing, as injurious and scrupulously to be avoided, the remedy which another has lauded as most efficacious. Under these circumstances we welcome any new drug which commends itself to us by scientific considerations, and by the fact that the diabetic may retain his usual diet, and escape the enforcement of those severe restrictions, which usually lead to a revolt, and end in a compromise between the doctor and his patient. Such a remedy is Jambul, the dried seeds of Eugenia Jambolana, one of the Myrtaceæ, which has been brought specially under the notice of the profession by Mr. T. Christy in his very interesting and instructive work, *New Commercial Plants and*

Drugs; and his enterprising firm has done good service by importing it into our country, and thus rendering it available for trial.

It was while perusing the above-mentioned work that my attention was first directed to this drug; and as I had at the time a case of diabetes under my care, and was most anxious to repeat the interesting experiments of Mr. Lascelles-Scott on the power of Jambul in preventing to a large extent the transformation of starch into grape-sugar, I communicated with Mr. Christy who most kindly and generously sent me a supply of the seeds in the forms of simple powder and of perles.

I lost no time in giving the new remedy to my patient in doses of 5 grains four times daily. I may mention that he was 65 years of age, that there never were any prominent symptoms, the appetite never having been excessive, nor the thirst to an unusual amount; he suffered from no special sense of fatigue, nor was there any indication of loss of flesh; the calls to pass water were not frequent, but the amount passed was observed to be large. It was the mention of this circumstance while I was attending him for an attack of HERPES ZOSTER that led me to examine the urine and to detect the disease. His diet was carefully regulated, and he gave a prolonged trial to yeast, but he remained very much *in statu quo;* the sp. g. of the urine being on an average about 1035, and the sugar varied only a few grains *per* ounce.*

Before beginning the Jambul his weight was 11 st. 3¾ lbs., the urine passed 88 ozs. in 24 hours, sp. g. 1033, of a yellowish-green colour, and acid. The sugar contained in that amount of urine was 1974·368 grains.

In a week after taking Jambul the urine was of a clear, pale amber colour, with a sp. g. 1038, 60 ozs. were passed in the day, containing 1312.500 grs. of sugar.

Seven days afterwards the urine had a pale, straw colour, a sp. g. of 1036, and sugar to the extent of 1609 grs. *per diem.*

The subsequent course was by no means satisfactory, for in three weeks he had lost 1 lb. in weight, and the urine was generally greater in amount, and contained more sugar; thus it was sometimes 140 ozs., and the sugar often amounted to 3062·5 grains, but it varied considerably, as for example, on March 19th, 120 ozs. of sp. g. 1034, and containing 2180 grs. of sugar, while on the 20th, 21st, 22nd, and 23rd of that month the quantity of urine passed in 24 hours was respectively 105 ozs., 97.5 ozs. 78 ozs., and 87 ozs.

Ordinary diet was now allowed with the design of slightly stimulating the disease, in the hope that the Jambul might act more efficiently when the symptoms were less chronic. During ten days, viz., from March 24th to April 4th, ordinary diet was alone given, the Jambul being stopped. The capricious nature of the disease is seen from the annexed figures:—

Date.	Colour.	Amount in ounces.	Specific gravity.	Sugar in grains.
March 24	Straw, hazy	120	1036	2114·1
,, 26	Opalescent	115	1033	2083·3
,, 27	——	105	—	—
,, 28	——	90	—	—
,, 29	——	78	—	—
,, 30	——	120	—	—
April 1	——	150	1035	3800·25
,, 2	——	109·5	—	—
,, 3	——	108	—	—
,, 4	——	135	—	—

* My notes on the early history of the case have, unfortunately, gone astray, so that I cannot give the details.

The Jambul was now resumed, and a new supply, which came from South America, and had been dried in a different manner, which Mr. Christy was so good as to forward me, was given in 10-grain doses four times daily with the following results as regards the amount of urine passed in 24 hours :—

Date.	Colour, &c.	Amount in ounces.	Specific gravity.
April 5	——	150	—
,, 6	——	135	—
,, 7	——	120	—
,, 8	pale straw, hazy	110	1036
,, 9	——	99	—

This result seemed pretty satisfactory, especially as on the 7th of April, on getting himself weighed, he found that he had gained $3\frac{1}{4}$ lbs. ; but on the following days up to the 16th the annexed are the results :—

Date		Amount in ounces.	Specific gravity.	Sugar in grains.
April 10	——	150	—	—
,, 11	——	147	—	—
,, 12	Acid	150	1036	4725·
,, 13	——	135	—	—
,, 14	——	130	—	—
,, 15	Acid	104	1036	2392·
,, 16	——	138	—	—

At the end of another week he had gained another pound in weight. We know that an increase of weight has been found to follow the use of Jambul, but whether the increase in this case was owing to its action or to the improved diet, it is difficult to say. This, however, I can say, that notwithstanding the large doses of Jambul given, and the long continuance of these doses, my patient never had his appetite or digestion interfered with in the least degree.

After the fair trial which I had given to this remedy and the results obtained, I felt this was not a case in which I could hope for the benefits which had accrued in several other cases which have been recorded. Perhaps those chronic cases occurring in people well advanced in life are not so amenable to the action of Jambul as those cases which are more acute.

I was the more disappointed at the issue, as the experiments with Diastase on starch, with and without Jambul, certainly proved that the reports of the action of that drug in diminishing the power of the ferment in changing starch into sugar in the laboratory were not without solid foundation.

In performing these experiments, I was most fortunate in having associated with me Dr. G. Sims Woodhead.

We made *six series of experiments* with the Jambul, in some of which the amount of Diastase, and the degree of temperature employed were varied ; but as many sources of fallacy (which we need not here enumerate) had to be guarded against, we prefer citing our last experiments, as the experience gained in our previous investigations afford some additional guarantee for their accuracy.

In this last series we used five solutions as noted below, and, on afterwards testing by Fehling's solution, the relative amounts of sugar were ascertained :—

Solutions at temperature 65° C.	Grains of Sugar in ounce of concentrated fluid.
1 Starch and Diastase	15·84
2 ,, ,, + Jambul 1 gramme ...	11·987
3 ,, ,, + ,, 2 ,, ...	6·
4 ,, ,, + ,, 3 ,, ...	4·9 at most.
5 ,, ,, + ,, 4 ,, ...	6·6

Here we have a gradual diminution in the amount of glucose till we reach No. 5, where the diminution was disproportionate, which was confirmed by testing anew. A discrepancy occurred also in our *third* series of experiments, but the discordant note in this case was struck by No. 3 and not by No. 5 :—

Solutions at temperature 65° C.	Grains of Sugar in ounce. of concentrated fluid.
1 Starch and Diastase	9
2 ,, ,, + Jambul 1 gramme ...	8
3 ,, ,, + ,, 2 ,, ...	10
4 ,, ,, + ,, 3 ,, ...	5
5 ,, ,, + ,, 4 ,, ...	4

In this third series a lower temperature had been employed and the amount of sugar was determined by the difference of density of the fermentation test.

In our *second* series, which included only four solutions, and where the sugar was determined as in the third series, we have a steady decline in the amount of glucose :—

Solutions at lower temperature.	Grains of Sugar in ounce. of concentrated fluid.
1 Starch and Diastase	15
2 ,, ,, + Jambul 1 gramme ...	8
3 ,, ,, + ,, 2 ,, ...	6
4 ,, ,, + ,, 3 ,, ...	4

In our *fourth* series, where a higher temperature than in the second and third series was used, and where the amount of sugar was determined by Fehling's test, we obtained the following result :—

Solutions.	Grains of Sugar *per* ounce. of concentrated fluid.
1 Starch and Diastase	8·928
2 ,, ,, + Jambul 1 gramme ...	6·075
3 ,, ,, + ,, 2 ,, ...	4·
4 ,, ,, + ,, 3 ,, ...	4·
5 ,, ,, + ,, 4 ,, ...	4·

In another series of experiments, in which the effects of several substances in preventing the transformation of starch into glucose was tried, Jambul was one of these, and gave the following result. The same temperature was employed as in the last experiment, and Fehling's Test was used :—

Solutions.	Grains of Sugar *per* ounce. of concentrated fluid.
1 Starch and Diastase	9·510
2 ,, ,, + Jambul 2 grammes..	7·06

From these experiments we cannot fail to be convinced that Jambul has the power in the laboratory of preventing, to a considerable extent, the change of starch to sugar. The only exception is to be found in No. 3 of the third series; but, though we cannot find a satisfactory explanation of this anomaly, the mass of evidence is too overwhelming to allow us to doubt the truth of the above proposition. We hope to be able to prosecute our researches still further, and under conditions more akin to those which occur in the human stomach, etc.

We have now ample evidence with the above results, and those published in No. 10 *New Commercial Plants and Drugs*, which were contributed by Mr. W. Lascelles-Scott to the *British and Colonial Druggist*, as to the action of Jambul in the presence of starch; and it will here be useful to reproduce extracts from the report made by Mr. W. Elborne, of Owens College, Manchester, to the *Pharmaceutical Journal*, May 5th, 1888, p. 921, of his experiments to determine the chemical constituents of the seed:—

The jambul operated upon in the following notes was presented to the Materia Medica Museum of Owens College last year by Mr. Thomas Christy, of London. It consisted of the dried kernels of the seeds, which had been cut in halves transversely, apparently to facilitate the process of drying. The ovoid pieces were about the size of large peas, of a dull earthy-brown colour with a dry earthy fracture, resembling in appearance fragments of pale catechu (*Uncaria Gambier*); odour slightly aromatic.

Moisture.—Ten grams reduced to a fine powder and exposed in a porcelain dish to the temperature of a water-bath until it ceased to lose weight lost 1·02 gr. = 10·2 per cent.

Ash.—The dried residue from above, thoroughly incinerated in a platinum dish, left an ash weighing ·25 gr. = 2·5 per cent. upon the original substance.

I.—Petroleum Ether Extract.—Twenty grams of the original substance reduced to fine powder was made up to 100 c.c. with petroleum ether and macerated for forty-eight hours with frequent agitation. The clear liquid was poured off and the residue thrown upon a filter, and filtration continued by the addition of fresh ether until the filtrate measured 100 c.c. The latter was of a yellowish-green colour, and 20 c.c. evaporated upon a water-bath until free from the solvent gave a residue of ·015 gr. = ·37 per cent., consisting of chlorophyll and fat free from odour.

Experiments with other portions of the extract gave evidence of the presence of a mere trace of an exceedingly volatile oil, the odoriferous principle.

II.—Ether Extract.—The seed residue from I., after being well washed with petroleum ether and dried by exposure to the air, was macerated with about 70 c.c. of ether for forty-eight hours with frequent agitation. The clear liquid being poured off and the residue thrown upon a filter, filtration was continued with fresh ether until the filtrate measured 100 c.c. of the latter, which was of a bright yellow colour; 20 c.c. upon evaporation left a dark coloured resinous residue weighing ·014 gr. = ·4 per cent.

The ether residue is perfectly soluble in alcohol, and partially in water. Extracted with water, the aqueous filtrate develops a dark colour with potash, is precipitated by acetate of lead, yields an inky mixture with ferric and ferrous salts, is not precipitated by solution of gelatine, and after having been boiled with a little dilute sulphuric acid copiously reduces alkaline copper solution, reactions indicating the presence of gallic acid.

Further experiments showed that water dissolved from the water-bath dried extract an amount equivalent to 0·1 per cent.

III.—Alcohol Extract.—The seed residue from II., washed with ether and dried, was exhausted with absolute alcohol according to the above method, the finished product measuring 100 c.c. Of the latter, 20 c.c. evaporated to dryness yielded a brown residue of 0·035 gr.=0·8 per cent., which was perfectly soluble in water; the aqueous solution gave negative results with alkaloidal reagents, and towards others, results were obtained with lead acetate, ferric chloride, gelatine, and alkaline copper solution as in II., indicating the presence of the same body.

IV.—The seed residue from III., exhausted with water according to above method, and 20 c.c. of the finished product evaporated to dryness on a water-bath weighed 0·19 gr.=4·7 per cent. The liquid extract was of a dark sherry colour; 20 c.c. mixed with twice the volume of absolute alcohol, set aside for twenty-four hours, filtered and the residue left in the filter washed with a mixture of alcohol and water (two vols. to one) weighed 0·05 gr.=1·25 per cent. of albuminous matters. The filtrate was evaporated until free from alcohol, and shaken twice with an equal volume of acetic ether. The ethereal layers being removed and the ether distilled off, left a coloured residue weighing 0·03 gr. = 0.75 per cent., consisting essentially of gallic acid.

According to the above, we arrive at the following proximate composition of jambul:—

Essential oil	a trace.
Chlorophyll and fat	0·37
Resin soluble in alcohol and ether ...	0·30
Gallic Acid	1·65
Albumen	1·25
Coloured extractive soluble in water ...	2.70
Moisture	10·00
Insoluble residue	83·73
	100·00

I have to thank Mr. Harwood for services rendered in connection with this investigation.

As to the therapeutics of Jambul in cases of diabetes, I have in the early part of this article given some idea of the results obtained, and would refer my readers to the cases reported in Nos. 9 and 10, *New Commercial Plants and Drugs*, in which great benefit was obtained. The following reports have since been collected both from the profession and from patients:—

Extract from the LANCET, *October 8th, 1887, p. 733.*

Diabetes insipidus.—No diminution of the urine with jambul.

Diabetes mellitus.—Cases presenting themselves with sloughing ulcers of diabetic origin, or accidental wounds in diabetics, refusing to heal under any application or treatment, gave these results: Water diminished; sugar decreased; ulcers filling in and wounds granulating and healing with surprising rapidity. Dose, 2½ gr. to 5 gr. in perles thrice a day after food.

One case in point may be mentioned. A diabetic of eighteen months' standing, who had been lately under strict diabetic regimen and treatment, applied to me for relief of rapidly increasing sloughy ulcers of leg and

thigh. These ulcers caused great pain. The patient stated that he filled a full-sized zinc pail with urine every night, and although he did not measure his urine in the day, he believed it was even greater in quantity. In one week with jambul (2½ gr. thrice daily) the urine diminished to one-half the quantity, and some of the deepest ulcers had filled up and skinned over. Few cases have impressed me so much with the value of jambul in diabetic ulceration as this.

Mr. T. E. Williams, M.R.C.S., &c., Abering House, Talgarth, on 26th March, 1888, writes that "he will thank Messrs. Christy to send him two boxes of Jambul Perles. He has taken them for some time, and he has received considerable benefit."

Mr. Thomas Craig, of Garlieston, N.B., writes that "he is thankful to say he has derived great good from taking the Perles, being much stronger, and the sp. gr. of the urine reduced down to 1020, whereas, at one time, it was 1030."

Mr. R. Wilks, Chemist, at Skipton, writes that "so far the patient seems to be doing nicely under the Perles."

From FRANCIS J. O'REILLY, F.R.C.S., I. & L.K., Q.C.P.I., *Mornington, Trim, Co. Meath.*

Male, age 64, **Diabetes**, 5 MONTHS UNDER OBSERVATION.—Codein had been administered with limited success for a period extending over two months. Your Jambul Perles daily produced a decided diminution in the quantity of urine voided, whilst the sp. gr. was reduced from 1045 to 1030. In this case, the only one in which I have had experience of the drug, the effects have been most satisfactory.

I will now give those reports in which little or no benefit was derived from the treatment.

From SYDNEY HAYNES, *Stansted, Essex.*

Jambul very quickly reduces the sp. gr. of saccharine urine. I administered it in perles, but my patient, who lives a luxurious life, was not very amenable and could not be prevailed on to take the perles with much regularity, nor diet herself very strictly; nevertheless, she became much better under treatment, and has now left England for a change.

From W. R. PEART, M.D., *North Shields.*

Female, age 60, **Diabetes**, UNDER OBSERVATION TILL DEATH.—Jambul seeds pulv. Christy. Case was unfavourable one, complicated with cancer of stomach. No appreciable effect.

From Dr. BEDDOE, *Clifton, Bristol.*

Female, age 25, **Diabetes Mellitus**, 10 DAYS UNDER OBSERVATION.—Jambul powder in 5-grain doses. No appreciable effect on urine; patient affirmed that the drug did not agree with the stomach.

Extract from the LANCET, *October 22nd, 1887, p. 834.*

All the patients were in the General Hospital under my care. I may say at once that no case was cured, but that all left the hospital more or less relieved by treatment, that all were carefully dieted, and that, besides the routine of diet, they were allowed potash imperial, sweetened with glycerine, to drink, and were in several instances treated by vapour baths. The effects of jambul were tested by maintaining uniformity of conditions in all other respects during the time the drug was employed or its use omitted. There were eight distinct trials in the five cases, five being followed by an increase of sugar and three by a decrease. Its disuse was followed on four occasions by a decrease and twice by an increase.

H. G.——, aged thirty-five, was the only case in which the decrease was well marked. On admission he passed 250 oz. of urine containing 9,200 gr. of sugar. After being placed on a diet of meat, greens, and

gluten bread, and the urine observed for a week, he passed an average of 190 oz. daily, containing 4,500 gr. of sugar. He then took 5 gr. of jambul three times a day for twenty-four days, during which time he passed on an average 140 oz. of urine containing 3,500 gr. of sugar. The next week he took no medicine, and the urine fell to 104 oz., containing 2,400 gr. of sugar. He was then given 1 gr. of opium twice daily for twelve days, the urine falling to 78 oz. and the sugar to 2,000 gr. This patient is still under observation.

In this case there seemed to be an improvement taking place independently of the drug, and which in no way ceased when this was discontinued. The other two instances where its use was followed by a decrease were neutralised by the fact that subsequent trials in the same patients were followed by an increase. Thus, in W. S——, aged twenty-one, the first trial was followed by a decrease, the second by an increase; and in F. M——, aged thirty-one, the first and third trials were followed by an increase, the second by a decrease. The duration of the use of the drug varied from three to thirty-five days. The five trials that resulted in an increase were respectively three, five, thirty-five, twelve, and fifteen days, while the three resulting in a decrease were three, eight, and twenty-four days. As far as possible the conditions were identical, so that if the drug is to be credited in any instance with the reduction of sugar, it must also be debited with its increase in the other instances, and we must conclude that it did more harm than good to my cases. I do not, however, think so harshly of it; I believe it to be a very harmless substance, and incapable of action either for good or evil. It deserves just as little to be regarded as a specific for diabetes as does arsenite of bromine, salicylate of sodium, bromide of potassium, codeine, salicine, boracic acid, or uranium nitrate, each of which has found enthusiasts to believe in it. I discussed the claims of these drugs in a paper published in the *Practitioner* for December, 1886, to which I would refer any reader who desires to know more of my opinions as to the rational use of drugs in diabetes.

Extract from the British Medical Journal, *December 31st, 1887, p. 1459.*

Mr. J. Munday, L.R.C.P. (Poona), writes: After several years' experience in this country with "eugenia jambolana" in diabetes, I have found it does not lessen the amount of sugar secreted, but does immensely reduce the quantity of urine, thereby relieving (quite) the irritability of the urethra, and giving the sufferer a complete night's rest. The fruit grows plentifully. The seeds ought to be let dry in an open vessel, the kernels removed, pulverised, and the quantity of one seed taken thrice daily. In forty-eight hours the diminution of urine takes place. Codeia in a pill of half a grain taken with the above thrice daily holds the secretion of sugar in check, and with certain restrictions in diet affords the patient apparently permanent relief, and need not interfere with a useful career.

In conclusion I need hardly say that I shall be glad of any reports which may enable the profession to pronounce definitely one way or the other upon the merits of this drug, also that I place supplies of the seed at the disposal of such who may in the interests of our knowledge of *Materia Medica* wish to experiment with it. I have shipped the plants to many of the colonies, seeing the importance of cultivating a drug having such claims, and that its fruit even in the hottest regions is deliciously cool and fragrant.

Since writing the above an important contribution to our knowledge of the therapeutics of Jambul has appeared in the *Practitioner* (No. 246. Vol. XLI, No. VI.) for December, 1888, by George Mahomed, Esq., M.R.C.S., of Bournemouth, and which reads as follows:—

JAMBUL IN GLYCOSURIA.

Recognising the importance of recording results for and against specific remedies on their trial, I beg leave to submit my first experience of jambul.

Mr. X. Z., about sixty years of age, a teacher of the violin, consulted me last May. He has suffered from syphilis contracted in youth, and brain troubles. He was once in Earlswood Asylum, and had also to live in enforced retirement for a short time some year or two ago. He has had diabetes to his knowledge eight or nine months. During this time he has suffered from general nervousness and confusion of ideas, rendering him unable to play at frequent intervals. He says that he loses consciousness, and "talks of things he should not mention." His appetite is keen but he does not suffer much from thirst. His appearance is robust. He walks a good deal. He struggles hard for his bread, under adverse circumstances; and is troubled with pruritus ani.

I found his urine to be of specific gravity 1020, and to contain a considerable amount of sugar. I put him at once upon Christy's *perles* of jambul, a two-grain *perle* three times a day. In about three days' time, according to volumetric analysis, which however was not conducted with standardised solutions, there was a diminution of the sugar; at the end of a week none could be detected. I then told him to discontinue the drug, and found that the sugar returned. On resuming jambul it again disappeared. I found that this cycle of events could be brought about with certainty as often as desired.

Though he gained much in self-control and steadiness during the treatment, he felt that while under the influence of the drug he experienced considerable temporary depression. I therefore ordered him to take only two *perles* a day, and that on alternate days. This he continued to do for some time. On August 30, nearly four months from his first visit, he sent me a sample of his urine from the north of England. I could detect no sugar in it. As he had no other treatment and continued his ordinary (partially restricted) diet, the fact seems established that the drug prevented the glycosuria. I had at first an idea that possibly the drug merely vitiated the ordinary test, but on substituting other reagents I could not find any trace of sugar. The busy life he led in his struggle for existence prevented any observation of the total daily excretion, The specific gravity never varied.

It may be observed that cerebral excitement prevailed during the time he was suffering from the glycosuria, and that the effect of the drug was to cause depression. This and the improvement in the glycosuria may possibly be due to a depressing action of the drug on the vasomotor centres.

NOTE.—Since writing the above this patient has again consulted me. He is much quieter, and believes he is cured of the diabetes. He passes less water now than he has done for a year or two back.

These results are important as they show beyond doubt that Jambul has some control over the amount of sugar, and that the drug on some patients may be administered with benefit. It is not claimed for Jambul that it is a cure but that in suitable cases it has the power to reduce both the amount of sugar and the quantity of urine passed.

The following formula is given under the authority of Dr. Pavy, in Lescher's *Recent Materia Medica*, to prevent constipation, *i.e.*, ℞ Codeinæ 4 grains; Pulv. sem. jambul 28 grains; Ext. Cascar. Sagrad. 1 grain; fiat pil. 8, 1 ter die, summend.

It has been suggested that a fluid extract be tried, and I have therefore sent out several sample bottles to test the preparation.

Jambul seed, according to a correspondent of the *Monthly Magazine of Pharmacy*, contains a very unstable glucoside, Jambulin, for so it will probably be called, which appears to have the power of stopping the diastatic conversion of starch, etc., into sugar.

If Jambulin can be obtained in anything like definite form, it is probable that important results to therapeutics in general, and to diabetic patients in particular, would speedily accrue. However, I have not had any confirmation of the presence of a definite body in the seeds except the results of the investigation made by Mr. W. Elborne.

NERIUM OLEANDER.

The bark of the *Nerium oleander* contains a glucoside Oleandrine, which has lately been investigated, and found to have a powerful action upon the heart, not unlike that of Strophanthin and Digitaline. The results published go to prove that it is a very active poison, deriving its properties from several ingredients. In cases of asystole due to renal or cardiac lesions, it acts as a tonic to the heart, and increases diuresis, and would appear to be useful in those cases in which Strophanthus may be used, but the information is not yet completed on these points. It does not accumulate in the system. The preparations used are:—The Hydro-Alcoholic Extract in doses of $\frac{1}{3}$rd grain per diem, gradually and cautiously increased to two grains; the Tincture, representing 1 part of the bark to 5 parts of alcohol, in doses of 5 to 10 drops per diem.

I am informed that Oleandrine is not obtainable in a pure crystalline form, such as would render it conveniently and easily handled for medicinal purposes.

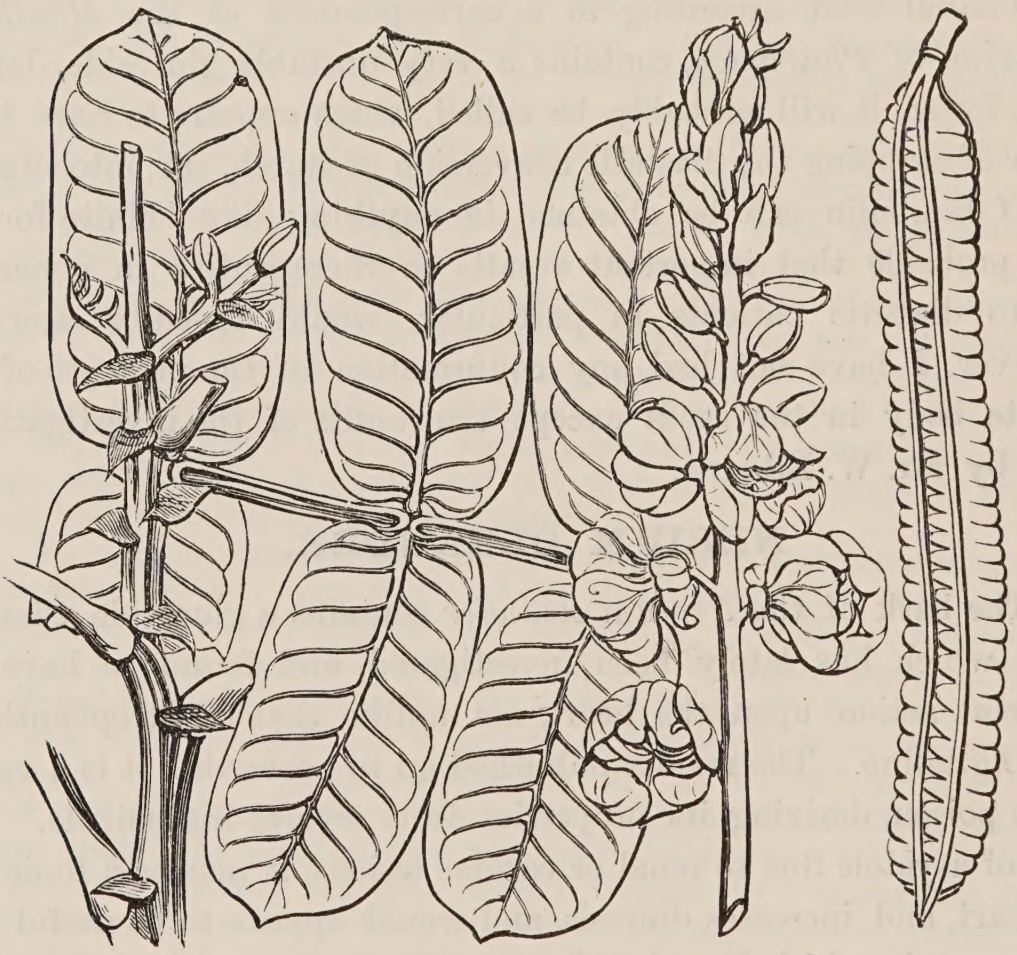
CASSIA ALATA.

By Dr. Antonio Jose Amadeo, M.R.C.S. England, &c.

Of the many members of the *Leguminosæ* family having medicinal properties, the *Cassia Alata*, or Ringworm Shrub, is one of the most interesting.

It has from time immemorial been a popular remedy in skin diseases, arresting the attention of medical men by the surprising results it has yielded in their hands.

The plant grows in the marshes of the Savannas, on the beds of dried-up rivers and rivulets all over Porto Rico, but more especially on the southern and eastern coasts. It is the queen of



shrubs, with its beautiful yellow flowers, which appear in November and in May. The plant, however, lives but a few years, and seldom grows to a height exceeding 6 or 9 feet.

Its leaves are from one to two feet in length, obovate, oblong, obtuse; and have a taste somewhat like those of Senna, but less nauseous. Many years since, the leaves of the plant were analysed in France, and according to Descourtils yielded a volatile oil, a fatty oil, a bitter principle, some extractive colouring matter, chlorophyll,

mucilage, albumen, malic acid, malate of potash, and tartrate of lime. It has, however, recently been discovered that the plant contains chrysophanic acid, to which is mostly due its beneficial action in ringworm and other skin diseases.

The natives of Porto Rico make an ointment over a slow fire with lard and the fresh leaves for the cure of ringworm, but it has been found that the juice of the leaves, buds, flowers and the bark are equally effective in anti-herpetic properties.

The seeds, I believe, are also useful, and when given early in the morning act as a safe and reliable vermifuge. In cases of inveterate eczema I have obtained really excellent results by bathing the parts with a decoction of the bark, leaves, and flowers. Internally I have prescribed an infusion of the flowers and leaves (one ounce to the pint), to be taken during the day, in the asthma and bronchitis of herpetic patients, and met with success.

The medicine produces watery stools and diuresis, the quacks in the island use it as one of the chief ingredients of a nostrum for syphilis and Phrombesia gummata.

KAVA-KAVA.

In No. 10, I gave ample details of the value of this important root in the treatment of gonorrhœa and other diseases of the urinary tract or bladder. I recommended that the pills, according to Dr. Fournier's formula, should be given a trial; I have since received many excellent reports, but I am not empowered to publish them yet. The two following cases, however, will show that Kava-Kava is not an exception to the general run of drugs, and that in certain cases it does not yield entirely satisfactory results :—

From JOHN DEANE, L.R.C.P. Edin., M.R.C.S. Eng.,
1, *Craven Gardens, Ealing.*

W. H., age 23, **Gonorrhœa,** 6 MONTHS UNDER OBSERVATION.—Ol. Santal, Cubebs, and Buchu Mixture, followed by tonics, from Sept. 15th, 1887, to Feb. 15th 1888, when Pil. Kava-Kava iij. per diem, increased to v., were commenced, and continued until March 26th, 1888. This case was (probably) an old-standing one, and had the appearance rather of a chronic gleet than a gonorrhœa. Little or no diminution in the discharge after, and during the whole time the pills were taken. No result in this case.

A. R. H., age 27, **Gonorrhœa** (3 days), 7 WEEKS UNDER OBSERVATION.—Pil. Kava-Kava from commencement of attack, Feb. 26th, iij., increased to v. per diem Immediate diminution in profuse discharge, but intense "ardor urinæ," Pj mott 3 ph Hyoscy mj x v ter die, commenced on March 9th and taken with the Pills until April 10th, when the progress appearing very slow (if any at all) the drug was discontinued. This patient complained after taking the drug some little time of its "repeating." Patient still under treatment. Slight improvement, which, however, did not continue to a complete recovery.

SPIKENARD—BALLOTA.

(Ballota Suaveolens.)

Cl. 14 or 1 *Didynamia Gymnosperma.* Nat. Or., *Verticellata.* Gen. Char., Calyxa one-leafed perianth, five-toothed, ten-sheathed; corolla, monopetalous, ringent, upper lip crenate, concave; lower trifid, stamens four filaments, two shorter; anthers oblong; the Pistil has a quadrifidgerm, a filiform style, and slender bifid stigma; no pericarp; calyx unchanged, seeds ovate. One species is a native of Jamaica—Suaveolens, Sweet smelling.

"Leaves cordate, spikes leafy, calyxes truncate, awns linear. Stem upright, becoming shrubby at bottom, branched, hirsute; branches somewhat erect, villose; leaves opposite, roundish, somewhat elliptic (sometimes) crenate, nerved, villose; petioles long, slender, lax; peduncles axillary towards the ends of the branches, three or five flowered; flowers approximating, blue; calyx ten-sheathed, villose, teeth awned, upright, villose; tube of the corolla narrower at the base, from the middle to the opening

spreading out; upper lip composed of the two upper, erect, lateral segments and the helmet, which is smaller than the segments, ovate, arched, bent down; filaments from the bottom of the tube, standing up above the opening of the corolla; pubescent; anther blackish; germ ovate; style shorter than the stamens; stigma simple, blunt; seeds two, naked, ovate, black, slightly compressed. There are

seldom four seeds. It is an annual plant, and the whole of it has a very strong smell."—Swartz.

"The Portuguese call it "Erva cidriera," from its smelling somewhat like citron. It grows wild in many parts of Jamaica, especially in the low gravelly land about Kingston and Old Harbour, where it generally rises two or three feet. It is one of the most grateful cephalics and alexipharmics of this class of plants, and may be used with great propriety in most disorders of the nerves and viscera, where such warm medicines are required."—Brown.

"In America grows in abundance a most excellent Spikenard. Its leaf is in the shape of the balsam, but much bigger, and more like the wild Horse Mint, with a large, square, rough stalk, and globulous head full of blue flowers. It has a strong scent like this Spikenard, and if you squeeze the tops in your hand, a clammy or oily substance will stick to it, and give a strong scent like the best oil of spike. It is an annual plant, and in its greatest perfection about Christmas. It should be gathered from the new moon towards the full, as a short time after none of it is to be found or seen. It is one of the greatest provokers of urine and *stone-breakers* that I ever experienced. I was once sent for to a person that lay in a strange condition, like hysteric fits, who, upon enquiry, I found was much troubled with the stone and gravel, and upon the time of voiding them, used to be so until she voided a stone or gravel, and then came out of the fits, upon which I ordered a strong beverage or sherbet, with lemons and sugar, and a little spirit of vitriol, and then added an oily spirit made from this plant, and gave it her to drink plentifully—like punch. She followed my directions, drank plentifully of it, and fell into a sound sleep, and as soon as she awakened, voided a great quantity of urine, with small stones and gravel. In a few days, there were brought away as many small stones as could be held in the hollow of the hand; and she was free from those fits, nor ever complained of any gravel or stone as long as she lived after, which was many years. I have often relieved persons that have had a total stoppage of urine, and have been in such agonies and pain that great sweats and fainting fits have attended them and death expected every minute, by their only drinking of the aforesaid composition, which made them evacuate with great violence and in great quantities, bringing away gravel and slime along with their urine, which would smell very strong of the oily

spirit. It also expels poison, and drives out all malignancies. Planters give it to their negroes to drive out the smallpox, and to comfort the heart, as they call it. The dried herb, given in powder, expels wind, cures the colic, and opens obstructions. The whole plant makes an excellent bath to take away aches and pains, and heals ulcers."—Barham.—(*Hortus Jamaicensis*, vol. 2, p. 189. By John Lunan.) I have just been informed by a medical man (15,525—17/11/88) that he has used Ballota Fluid Extract in two cases of tubercular peritonitis of five years' duration with marked improvement.

JAMAICA DOGWOOD.

(Piscidia erythrina.)

The Jamaica Dogwood, in the form of a Fluid Extract, has for some time back been before the Medical Profession in the United States of America and in Europe as a sedative and hypnotic. It has been more especially recommended in controlling irritability of the brain, for neuralgia and for sleeplessness. I have recently received from Dr. J. Hutchison, of Shawlands, Glasgow, the following reports upon cases which have come under his care :—

Jas. G., age 44, **Phthisis,** 3 MONTHS UNDER OBSERVATION.—Pain in chest much relieved, expectoration made easier, and patient felt benefit from medicine.

Jn. W., age 40, **Miner's Bronchitis,** 2 WEEKS UNDER OBSERVATION.—Medicine did not stimulate expectoration enough, although pain and rawness in front of chest relieved.

Jn. McG., age 24, **Dry Catarrh,** 2 WEEKS UNDER OBSERVATION.—Medicine quickly relieved pain and rawness in front of chest, and irritable tickling cough improved wonderfully.

Mrs. McA., age 27, **Catarrh,** 10 DAYS UNDER OBSERVATION.—30m. doses produced great effect in diminishing irritation in chest and assisting the little expectoration there was.

Jn. B., age 34, **Phthisis, first stage,** 3 MONTHS UNDER OBSERVATION.—Pain in and around apex much relieved, and irritable tickling cough moderated. Medicine not given in doses sufficient to produce hypnotic effect.

Jane A., age 21, **Facial Neuralgia,** 6 DAYS UNDER OBSERVATION.—Jamaica Dogwood was combined with pot. brom. and tinct. gelsemium, and the combination acted well. The pain in temple and cheek was much moderated, and patient got good night's rest.

Wm. Ph., age 43, **Sleeplessness,** 3 MONTHS UNDER OBSERVATION.—Various remedies had been tried, such as tonics, hypnotics, &c. Trouble seemed to be mental, and patient was continually brooding over recent bereavement. Dogwood and bromide acted well, and along with active exercise completed cure.

H. McM., age 24, **Dry Catarrh,** 2 WEEKS UNDER OBSERVATION.—Was much pleased with result, both pain and cough relieved quickly.

Mary M., age 22, **Hyperæsthesia,** 2 MONTHS UNDER OBSERVATION.—Suffered much pain at periods, especially in left ovary. Dogwood and salix nigra relieved severity and shortened duration of suffering.

Jn. H., age 41, **Sciatica,** 1 MONTH UNDER OBSERVATION.—Regulation of bowels, blisters on hips, and Jamaica dogwood in ʒi. quickly relieved sufferings of patient.

LYCOPODIUM.

Some twenty years ago it having come to my knowledge that Lycopodium had properties which would earn for it a place in *Materia Medica*, I have since been urging the Profession to give it a trial.* I am indebted to one of the Surgeons to St. Peter's Hospital for Urinary Diseases, who permitted my shorthand reporter to take down the following excerpt from a Lecture upon "Therapeutical Innovations," which was delivered at St. Peter's Hospital, on March 21st, 1888.†

"Since my last lectures upon the 'Therapeutical value of the more recent additions to the Genito-Urinary Pharmacopœia' in 1887, I have had so many inquiries about Lycopodium, that I wish to bring the drug, and my increased experience of its powers, before you to-day, citing cases as illustrations of its value. It has been said that the Lycopodium which I have used was the ethereal tincture: this is, however, a mistake. The Lycopodium which I have employed for the past three years has been obtained through Messrs. Christy & Co., and is, so I am given to understand, a tincture, made by the Homœopathic process. I usually administer it in 30-minims to teaspoonful doses three times a day, and have found it of real benefit in quieting functionally irritable bladders. But first, let me remark parenthetically that the indiscriminate and empirical employment of Lycopodium in all cases of irritable bladder—no matter what the cause for the frequency may be—will only prove unprofitable and disappointing. The value of Lycopodium, as is the case with every drug, depends upon an accurate knowledge of the extent of its powers and just appreciation of the importance of the symptoms for which relief is attempted. Lycopodium can have no more effect upon the imperious desire to pass water experienced in cancer of the prostate or bladder; in deposit of tubercle in the mucous membrane of the same; in acute cystitis or atony, than the administration of small doses of water. There is, however, a class of case in which, without any apparent reason, the patient is tormented by a frequency of micturition. He passes water often, and only a little at a time. No disease is detected. No cause can be discovered. In *some* of these cases Lycopodium is of use. I say "*some*" for I have been disappointed more than once. It is of sufficient value, however, to advise its trial, and to bring before you cases from my out-patient note book to justify this recommendation.

"J. A., aged 38, presented himself at the Out-Patient department here, complaining of passing water every ten minutes, accompanied by great pain both before and after the act. He had supplied himself with a urinal. He was wretchedly emaciated, seemed to be in constant pain. His history was as follows:—"Twelve years ago he was a strong and healthy man, weighing 11 stone 4 lbs. He suddenly felt pain across the small of his back, and began to pass blood; soon having to strain violently whilst making water. The straining was doubtless due to "clots." He came under my colleague, Mr. Teevan, and was treated as an out-patient for six months. He was frequently sounded, but no stone could ever be discovered. In 1880, the pain and frequency of micturition were so great, and his health so greatly undermined by his loss of rest, that Mr. Teevan performed a perineal cystotomy upon him. No morbid condition could be found in his bladder. The blood stopped after that

* See No. 6 *N. C. P.*, p. 96, for particulars.

† The Botanical descriptions and references to the literature have been omitted.

operation for one year, then the bleeding recommenced and he again became an out-patient. The pain, frequency and bleeding increased till it became almost constant, and he underwent a second perineal cystotomy, but the irritability of bladder and pain remained undiminished, and 3½ years ago a third and last perineal cystotomy was undertaken, in the hopes of affording him relief from a life of almost unendurable misery. His bladder was allowed to rest for seven weeks, and he left the hospital, passing water by the perineum. No alleviation, however, was experienced as regards pain or frequency, only the drain of blood ceased. Since this time he has taken 6 grains of morphia a day (24 grs. of Extract Opii, or over a fluid ounce of the tincture) to ease him. Even with this he is up all night, straining to get the water away: catheterism affording no relief. There is a distinct history of syphilis, but his children, seven in all, have escaped.—*Present condition:* The man is an old worn-out man at 38. He is extremely emaciated, and bears the stamp of prolonged suffering upon his face. His constitution is evidently affected by his trouble and the morphia habits he has acquired. He passes water into the urinal every ten minutes, suffering pain both before and after the act. One ounce of residual urine is found in the bladder. It is slightly acid and albuminous. The prostate is small and hard; feels warped as to the position of the lobes: on pressing it the patient feels pain at the end of the penis like a knife running into him. Finding his suffering so great, and his frequency prevented him sleeping at night, I injected 10 drops of 20 % solution of Cocaine into his prostatic urethra, and the next day he assured me he had passed a splendid night; that the irritability was diminished, and that he did not wish to make water for two hours after the injection of the Cocaine. He promised to leave off his morphia, and I provided him with a small bottle of a 10 % solution of Cocaine, with instructions how to use it. He soon became excited and passionate, feeling the sudden withdrawal of the opium, but after a severe struggle he overcame the habit. The Cocaine lost its effect in a few weeks, but not before he had discarded his urinal. His general condition was greatly improved, and his pain had been somewhat reduced. He passes water only six or eight times at night, and every hour-and-a-half in the day. I now placed him on Lycopodium half-drachm doses; the frequency gradually diminished. He is now less often up at night; his appetite has returned, and he is gaining flesh. Describing the effect of Lycopodium, he says:—"that half-an-hour after he has taken it, he feels it at the end of his penis." Be this as it may, the man is greatly improved, and seems to continue to improve under the influence of the Lycopodium.

"This is a remarkable case, and though I quote it, I will ask you to reserve your judgment until I give you my opinion upon it. I believe the origin of the trouble was pyelitis, perhaps scrofulous; that the bladder at first sympathised, but secondarily became involved by the gradual extension to it of the disease. The three perineal cystotomies undoubtedly relieved the bladder, and when the patient came under my care he had the urinary passages in a chronic state of catarrhal irritability. The morphia induced incontinence, or a partial loss of vesical control, which kept up this catarrhal condition. The Cocaine, by removing the necessity for morphia, broke the vicious circle. Piché was tried, with but slight effect. The rest obtained by the bladder from the Cocaine and, above all, I believe, the confidence he acquired on finding his urinal superfluous, established a better regulation of the prostatic call for micturition, and Lycopodium finally aided the work of restoration.

"As an example of the usual type of case, and the effect of Tincture

of Lycopodium upon it, I cannot do better than to read you the notes of the following :—

"H. G., aged 22, came complaining that he wished to go to the urinal every hour or two. Careful examination reveals functional irritability, perhaps due to onanism.

After being treated with various drugs, such as Bromide, Salix, Copaiba, Opium, Squills, &c., he was placed upon Lycopodium, and immediately began to improve : he now passes water much less often, and states that the medicine (Lycopodium) "has done for him what nothing else was able to do." We were able to confirm his statement by substituting Bromide of Potassium for Lycopodium, which immediately caused a slight return of the irritability."

Medical Men who are desirous of trying Tinct. of Lycopodium in similar cases, or in the enteritis of children, chronic passive bronchitis, chronic pneumonia, boils, carbuncles and papular eruptions, should see that they get the Tincture as prepared for us.

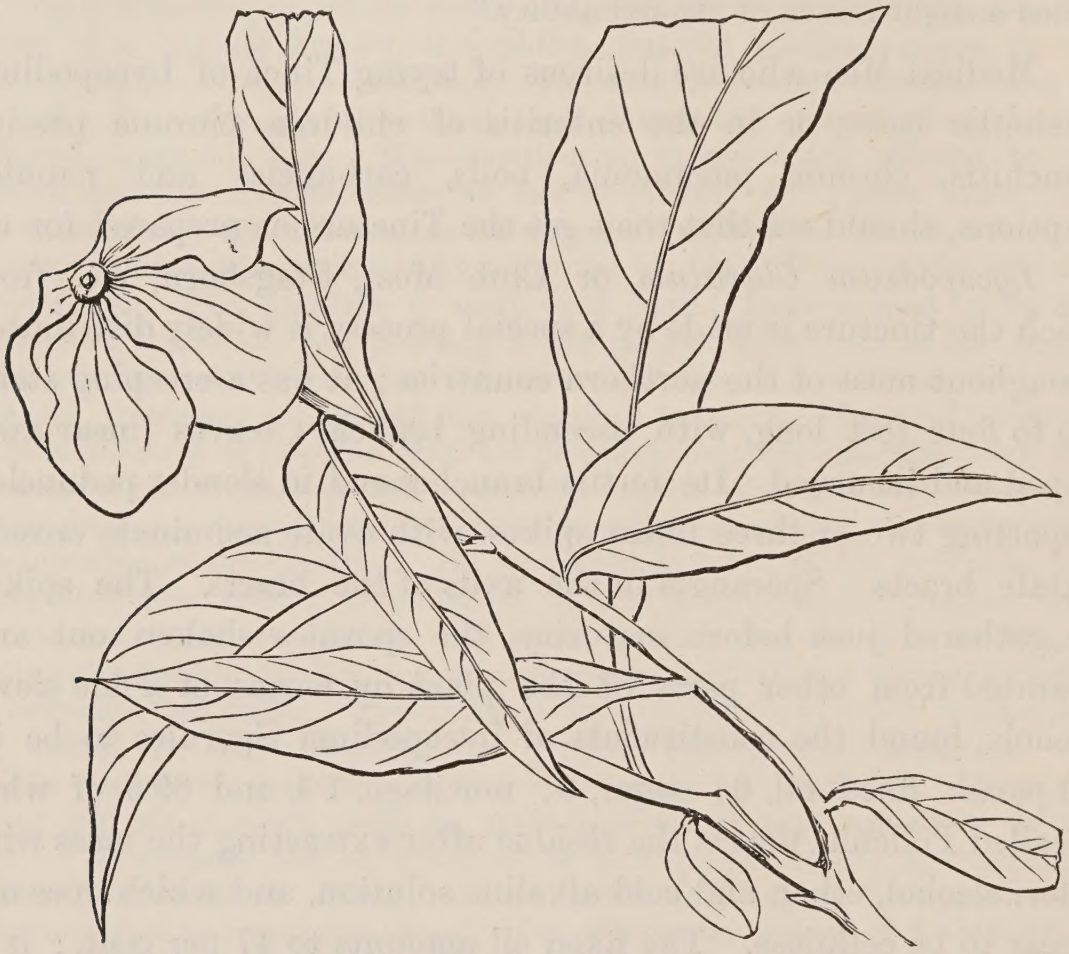
Lycopodium Clavatum or Club Moss, Stagshorn, &c., from which the tincture is made by a special process, is widely distributed throughout most of the northern countries ; it has a creeping stem, two to four feet long, with ascending branches, leaves linear-awl-shaped and incurved. Its fertile branches end in slender peduncles, supporting two or three linear spikes, with ovate acuminate erosely dentate bracts. Sporangia in the axils of the bracts. The spikes are gathered just before maturity, the sporules shaken out and separated from other parts of the plant by means of a fine sieve. Bucholz found the constituents of Lycopodium Sporules to be in 100 parts: fixed oil, 6 ; sugar, 3 ; mucilage, 1·5, and 89·5 of what he called Pollenin, that is the residue after extracting the mass with water, alcohol, ether, and cold alkaline solution, and which does not appear to be cellulose. The fixed oil amounts to 47 per cent. ; it is bland, and does not solidify at even 15° C.

SENECIO CANICIDA.

The *Senecio canicida* is known in Mexico as Itzquinpatti, Yerba del Perro, or Yerba del Puebla, and used for mange and other cutaneous affections, as a sudorific, and as a local application to ulcerations of the throat and diseases of the skin. The active principle is found largely in the root, but very little in the leaf. It is a strong poison, especially when injected. Debierre states that it relaxes the vesical and rectal sphincters, excites the muscles of the intestines, bladder and iris. Death is caused through stoppage of respiration and convulsions, somewhat resembling those of strychnine, though the reflex excitability is the reverse of that of the latter. No therapeutical notes have yet been issued.

MANACA.

Manaca or Mercurio-Vegetal is the name given by the Brazilians to the *Franciscea uniflora*, a shrub belonging to the natural order *Scrophulariaceæ*. This shrub has alternate, oblong acuminate leaves, shortly petioled; solitary and terminal flowers, of a penetrating odour, resembling that of narcissus. The root bark is the part in which the properties of the plant mostly reside, and which yields the active principle named Francisceine.



As is the case with most Brazilian drugs, several plants are used under the name of Manaca, these being the *Durante bicolor*, the *Admosma superflua*, and the *Franciscea uniflora*, but it is with the latter only that the results obtained by the native doctors have been confirmed in the United States and Europe.

Manaca is a powerful anti-syphilitic, purgative, diuretic, emmenagogue, catalytic, anti-rheumatic, especially indicated in syphilis, scrofula, meningitis and rheumatism in any form. It excites the lymphatic system, eliminating morbid matter from the blood by the skin and the kidneys

Dr. C. W. Hansen, of Jamaica, in "*New Preparations*, 1879, p. 248, states that he has heard the Manaca very highly spoken of for rheumatism, given in the form of a fluid extract.

Dr. J. Hutchison, Physician to Anderson's College Dispensary, Glasgow, has given a fair trial to the Fluid Extract of Manaca, and he has sent us the following notes of his cases :—

D. B., age 45, **Chronic Rheumatism**, 3 MONTHS UNDER OBSERVATION.—30m. doses of Ext. Fl. were given three times a day, which the patient remarked acted both as a tonic and stomachic, patient being able to take his food much better, and pains in limbs not troubling him so much. It is but fair to say he also had a compound liniment of chaulmugra oil and capsicum.

Jn. F., age 24, **Chronic Rheumatism**, 2 MONTHS UNDER OBSERVATION.—Patient was also placed on 30m. doses three times a day. In the course of a few days he remarked he felt better all over. Pains not so bad, and food taken with more relish.

Jas. McF., age 41, **Chronic Rheumatism**, 6 WEEKS UNDER OBSERVATION.—Same dose, same effect, alleviation of pains and improvement in health.

T. McM., age 26, **Chronic Rheumatism**, 4 MONTHS UNDER OBSERVATION.—Patient had been taking pot. iodide for some time past, when I resolved to try Manaca. This appeared to agree better, and also had more effect on pains.

Jn. A., age 21, **Chronic Rheumatism**, 1 MONTH UNDER OBSERVATION.—Patient had suffered for past three years, and been treated with blisters, &c. Manaca in 30m. doses improved general health, and also relieved pains markedly.

Mary D., age 24, **Muscular Rheumatism**, 2 WEEKS UNDER OBSERVATION.—Shoulder joints most affected, general health poor. Manaca along with stimulating liniments effected great improvement.

Alex. H., age 32, **Chronic Rheumatism**, 3 WEEKS UNDER OBSERVATION.—Change in weather always brought on pains in arms. Had taken pot. iodide for some time past with little effect. Manaca in 30m. doses improved general health, and also improved rheumatic pains.

Michael J., age 24, **Chronic Rheumatism**, 2 MONTHS UNDER OBSERVATION.—Patient had been much exposed, and pains in back most complained of. Manaca acted well both as a stomachic and relieved back-ache.

Dr. D. Winship, in the *Therapeutic Gazette*, 1880, p. 43, relates the case of a lady who was subject to attacks of articular rheumatism, the foot and knee were badly swollen and extremely painful. She was given Fluid Extract Manaca in doses of 5 drops, gradually increased to twenty drops, thrice daily. At the end of a week she was about the house superintending her work.

Dr. C. H. Lent, in the *Therapeutic Gazette*, 1880, p. 260, states that he gave Manaca with decided benefit in a number of cases of rheumatism. In one case, which had for several months baffled the usual remedies, derived prompt and marked relief from a course of Manaca. Another case—one of very acute and severe rheumatic arthritis, attended with a high degree of pyrexia and other distressing symptoms usual in this disease—was placed on 5-drop doses of the Fluid Extract of Manaca, increased to 8 drops on the second day without any constitutional disturbance. Under this treatment the pain and swelling subsided rapidly and steadily, and motion soon became bearable.

Dr. S. L. Kilmer, in the *Therapeutic Gazette*, 1880, *p.* 262, says he has administered Manaca in eight cases of rheumatism, some

chronic and others acute, and in all cases the relief was steady, constant, and satisfactory.

Dr. ALLAN S. PAYNE, late Professor of the Theory of Medicine, in Southern Medical College, Atlanta, U.S.A., in the *Therapeutic Gazette*, 1887, p. 171, writes as follows:—

I consider the *Franciscea uniflora* (Manaca) one of the very best therapeutic remedies we have in cases of rheumatism, rheumatic gout, and eruptive diseases of syphilitic origin. I have seen many cases of chronic, subacute, inflammatory rheumatism, and syphilitic eruptions readily yield to the administration of the fluid extract of Manaca, in doses ranging from 8 to 20 drops three times a day. I have been prescribing it for the last eight years in my practice, and could, if I had the time, report numerous cases where its exhibition was of unquestionable value. In secondary and tertiary syphilis its action has been more prompt and more satisfactory to me than my old favourite remedies, iodide of potassium and sarsaparilla, or the bichloride hydrargyrum either. But as I gave my views freely some time ago through the columns of the *Therapeutic Gazette* as to the value of the fluid extract of Manaca, I will now only say in my opinion it still holds its own.

Dr. N. D. Gaddy, of Indiana, in the *Therapeutic Gazette*, 1880, p. 194, states that it had astonishingly curative influence in a case of sub-acute spinal meningitis, sporadic, and accompanied with a strumous cachexia. The patient was unable to sleep or rest; could not bend the body without pain, and there was great tenderness over several of the cervical and dorsal vertebræ. She was given Fluid Extract of Manaca in 5-minim doses every four hours. In three days she was up, and said the paroxysms of pain in the head and limbs, the jerking, cramping or spasms in the muscles of the right arm and leg had all vanished. She was able to bend the body, and even to incline it to the left, notwithstanding the swelling and tenderness, indicative of peri-nephritic inflammation of the left side.

In the *Therapeutic Gazette*, 1881, p. 47, Dr. W. H. Bentley, LL.D., records a case of contracted syphilis, in which after the use of Iodide, Stillingia, Berberis aquifolium, etc., without success, he gave teaspoonful doses of Fluid Extract of Manaca, thrice daily before meals. At the end of three weeks she presented a very improved appearance, and at the end of another three weeks all traces of the infection had practically disappeared.

From J. T. THOMAS, L.R.C.P., L.R.C.S., L.M., *Newport, Mon.*

Mrs. V., age 57, **Severe pains in hands and feet after an attack of Gout,** ONE MONTH UNDER OBSERVATION.—Increasing doses from 5 to 20 m. four times daily. Soon after beginning the treatment pains much less in severity, appetite improved, after three weeks pain entirely gone. Very useful.

Mr. S., age 30, **Chronic Rheumatism, after third attack of Acute Rheumatism,** 3 WEEKS UNDER OBSERVATION.—Same as above. Improvement even quicker than above. No pains at end of second week. Most useful drug.

Mrs. J., age 52, **Rheumatoid Arthritis.** (Never had Gout, and no traces of it or of gouty history). 5 WEEKS UNDER OBSERVATION.—Same as above. No improvement at all, gave rise to headache.

Mr. H., age 25, **Gonorrhœal Rheumatism of some standing** ; no other remedy any use. 3 WEEKS UNDER TREATMENT.—Same as above. Great improvement on second day, pain less ; general improvement, no pain at end of three weeks. Very useful.

Mr. H., age 32, **Secondary Syphilis, Ulcerated Sore Throat, Severe pain in head and shoulder joints;** could not take Iodide of Potass, even in small doses. 6 WEEKS UNDER TREATMENT.—Same as above. Very marked improvement at end of first week. Scaly eruption very much improved, no pain in head or shoulders after third week. Most valuable drug.

From FREDERIC C. WOOD, L.S.A., &c,, *Sheriff Hutton, Yorks.*

M. E. P., age 21, **Myalgia,** 3 DAYS UNDER TREATMENT.—Ext. Manaca Fluid mx ter in die. Patient had often before suffered from this affection after being exposed to wet ; when seen she was unable to raise the right leg at all, and the left only slightly ; she was ordered Ext. Manaca Fluid m x t.d.s., and was *quite* well in three days ; in previous attacks had always been laid up for fully ten days.

S. T., age 45, **Rheumatic Arthritis,** 2 OR 3 WEEKS UNDER OBSERVATION.—Ext. Manaca Fluid m v t.d.s , which was finally increased to m xxv t.d.s. The pain in left shoulder was much relieved when Pot Iodid had been previously tried ; is now able to move his left arm almost as well as the right one ; this was about three weeks ago, have not seen him since, so conclude he is well.

I believe this drug is very useful in most of the cases of so-called "Rheumatics," and as in my last case would certainly recommend it to be tried after Pot. Iodid had failed ; but I can fully bear out the statement in your circular, *i.e.*, the drug should be first administered in small doses. In No. 2 case, although I began with only m v, the symptoms became somewhat alarming, viz., cold sweats, swimming, and dizziness in the head ; but this soon passed off when ordered the drug to be taken almost immediately after food.

From H. MALLINS, M.B., M.D., *Watton, S.O., Norfolk.*

Mr. Whitrod, shoemaker, age 72, **Chronic Rheumatism of knee and hip joints,** 3 WEEKS UNDER OBSERVATION.—10 to 15 m Ext. Manaca, ter die. Pains unrelieved, appetite increased, tongue cleaner. Probably too chronic a case for benefit from any drug.

Jane B., labourer, age 70, **Sciatica and Lumbago,** 6 WEEKS UNDER OBSERVATION.—20 m Ext. Liq. ter die. For the first two weeks a decided improvement was observable ; subsequently, however, the pain and stiffness became as bad as ever, due no doubt to the frightful east winds.

Brett, B., age 18, labourer, **Rheumatic Fever** (4th week), 10 DAYS UNDER OBSERVATION.—10 m Ext. Liq. ter die, and three days later 20 m ter die. The usual drugs having been tried without effect in this case—one complicated with pleuritis and pericarditis—which had reached a typhoid state, with brown tongue and complete anorexia. The Ext. was given a trial and acted most beneficially as regards cleaning the tongue and promoting appetite. No specific action on the disease itself observed.

Cosley, R., labourer, age 64, **Sciatica,** 4 WEEKS UNDER OBSERVATION.—30 m Ext. M. ter die. Derived no benefit whatever.

Gowad, age 45, labourer, **Sciatica,** 2 WEEKS UNDER OBSERVATION.—30 m Ext. M. ter die. But little improvement while taking the Extract.

From the foregoing very limited experience of the Ext. Manaca, I am disposed to doubt its having any specific action in rheumatic affections, and certainly has some action as a digestive tonic.

From R. T. WHEELER, L.R.C.P., L.R.C.S. Edin., L.F.P. & S.G., *Whitstable.*

Jno. Spencely, age 65, **Muscular Rheumatism,** 10 DAYS UNDER OBSERVATION.—Ext. Manaca mxv, aquæ camph ʒiv every three hours before meals. This patient was subject to periodical attacks of muscular rheumatism, usually

incapaciting him for work. Under Pot Iodid and Bicarb duration of attack was from 13 to 14 days. On this occasion the Ext. of Manaca was substituted for the Iodide, apparently with the result of shortening the duration of attack which only lasted seven days. The patient was not aware of any change in his treatment, but expressed himself as being benefitted by the medicine. The preparation of Manaca submitted to trial has apparently some value (though the evidence of a single case is of no weight) in muscular rheumatism. Pain was slightly diminished in 12 hours, and there was a decided increase in the amount of urinary excretion. The fœces were of a more liquid character than usual after the drug had been taken for four days, and that this was not due to the food was proved by changing it, when the aperient action was traced to the medicine. Hence one would conclude that it was a diuretic in small, and purgative in large doses.

From F. TAYLOR SIMSON, L.R.C.P., Lond., *Prizeman in Therapeutics, &c.*, 110, *Lavender Hill, S.W.*

J. W., age 55, **Chronic Rheumatism**, 6 WEEKS UNDER OBSERVATION.—Increasing doses of Manaca Fluid Extract. Absolutely worthless in this case.

From H. T. WOOD, *Calstock, Tavistock.*

Tried it in four cases, but cannot say I met with any success; but this remark applies equally to some other remedies I employed, such as Colchicum, Cimicifuga, and Bryonia. In the acute cases Iodide Salicyl gave the best results. Iodide of Potassium and Salol, the latter particularly, gave benefit in chronic cases. I would add that never in an experience of 40 years found the majority of the cases so intractable and prolonged, probably owing to the long continuance of east winds.

It has often been noticed with Manaca that it produces, at first, pains in the body, and headache as if the head had been encircled with a tight band, ending in a short time in profuse perspiration and sleep. It should at first be given in small doses, gradually increased, beginning with 5 minims of the Fluid Extract, thrice daily, and reaching 1 drachm.

DELPHINIUM EXTRACT.

In the *Lancet*, April 11th, 1885, this extract, which is composed of equal parts of Delphinium denudatum, Cardamom, Ignatius beans and Lodoicea nuts was strongly advocated for cholera, chlorosis, and diarrhœa. I had the Extract prepared, and Dr. J. Hutchison, of Shawlands, Glasgow, was kind enough to give it a trial, with the following results, viz:

Mrs. S., age 24, **Summer Diarrhœa**, 1 WEEK UNDER OBSERVATION.—Indiscretion in diet presumable cause. Pulv. Rhei Co. was first administered, and then 15m. of Ext. Fl. Delphinium three times a day. Medicine certainly stopped diarrhœa, but patient complained of making her squeamish.

Jn. L., age 21, **Summer Diarrhœa**, 10 DAYS UNDER OBSERVATION.—Same cause, same treatment. Diarrhœa certainly relieved quickly, but patient also complained of sickness.

Mary F., age 30, **Summer Diarrhœa**, 1 WEEK UNDER OBSERVATION.—Same cause, same treatment. Improvement in diarrhœa, but also same squeamishness complained of.

Joseph McB., age 26, **Summer Diarrhœa**, 1 WEEK UNDER OBSERVATION.—Same cause, same treatment. Result good, no squeamishness.

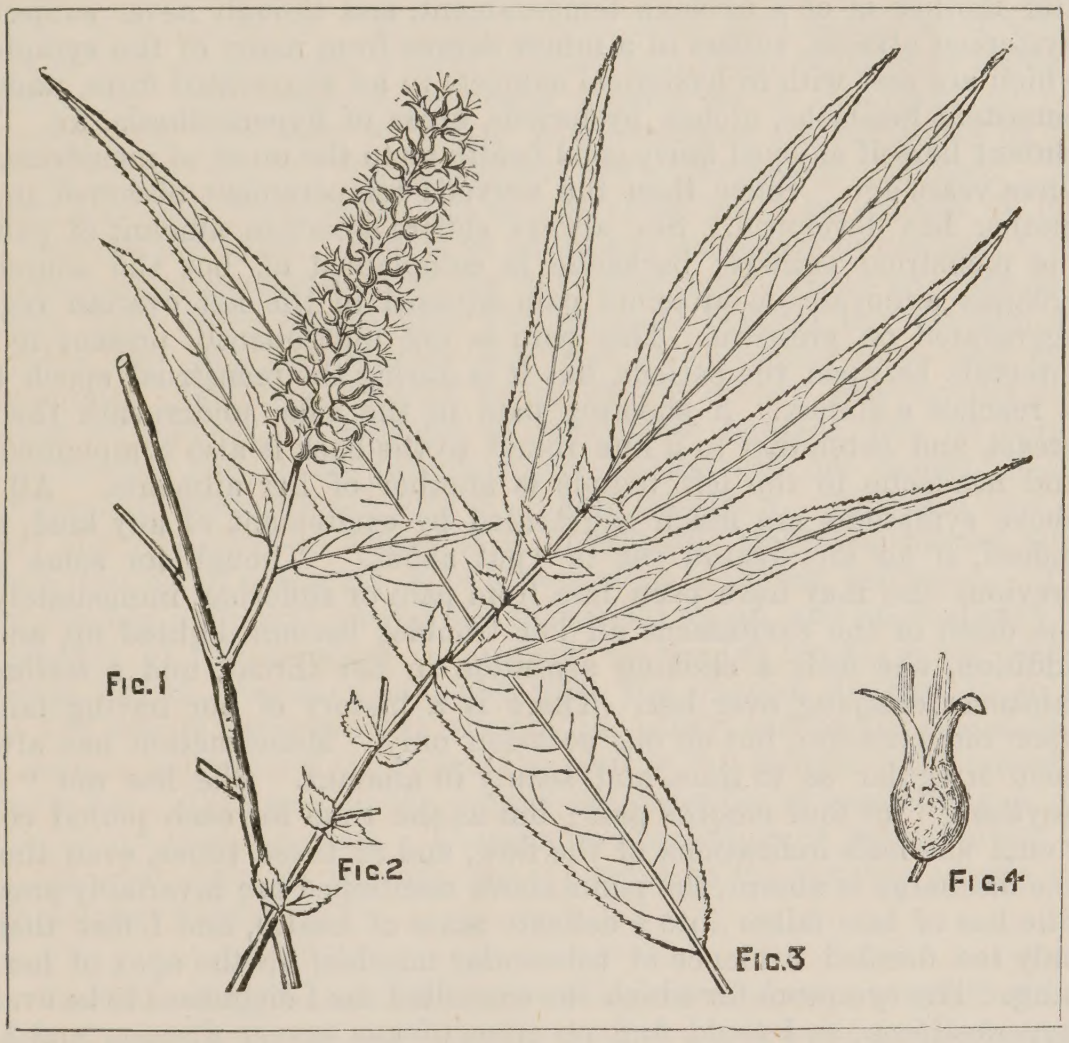
Thos. J., **Summer Diarrhœa**, 1 WEEK UNDER OBSERVATION.—Squeamishness co m plained of after medicine, although diarrhœa cured.

Jas. W., age 40, **Summer Diarrhœa**, 1 WEEK UNDER OBSERVATION.—Squeamishness also complained of, though looseness stopped.

SALIX NIGRA.

(Black Willow; Catkins Willow; Pussy Willow.)

The Black Willow is a tree growing from fifteen to twenty feet high, along the streams, especially southward, of the United States of America. It has lanceolate and lance-linear leaves pointed and tapering at each end, serrate, smooth, except on the



SALIX NIGRA.

petiole and mid rib, and green on both surfaces; stipules—small and deciduous; scales—short, rounded, and villous; stamens—three to six; pods—mostly short and ovate; bark—rough and black.

In the *Transactions of the Texas State Medical Association*, Mr. Pain gives a report upon many cases he has treated successfully with this drug. He found it to be a powerful sedative to the sexual

organs, curing many bad cases of self-indulgence, spermatorrhœa, ovarian hyperæsthesia, and neuralgia proceeding from it, and simple dysmenorrhœa.

Dr. J. Hutchison, of Shawlands, Glasgow, Physician to Anderson's College Dispensary, reports as follows of a case of ovarian hyperæsthesia treated with the fluid extract:—

Mary C., æt. 19, unmarried, consulted me on the 25th of January, suffering from pain in the left ovarian region, which had been present for a week, but during the last couple of days had become very acute. Her family history is bad. Her father died from phthisis at the age of 42, and all his folks are more or less tainted with a phthisical habit. Her mother is of a nervous temperament, and though never subject to hysterical attacks, suffers in a minor degree from many of the symptoms which are met with in hysterical subjects in an aggravated form, namely, persistent headache, globus hystericus, areas of hyperæsthesia, &c. The patient herself enjoyed fairly good health up to the onset of menstruation, three years ago. Since then the nervous temperament observed in her mother has developed. She always suffers a certain amount of pain at the menstrual periods; backache is complained of, but the source of greatest annoyance is an acute pain situated in the left ovarian region, aggravated on pressure. This pain is not unfrequently present in the intervals between the periods, but it is during the menstrual epoch that it reaches a climax. A shooting pain in the side, underneath the left breast, and extending in a line round to the back is also complained of; and headache in the left temple is another of her ailments. All the above symptoms are much aggravated by excitement of any kind, and, indeed, if for any reason she is "put about." Though for some time previous she may have been free from pain or suffering, immediately on the onset of the excitement all her troubles become lighted up, and in addition, she feels a choking sensation in her throat, and a feeling of faintness creeping over her. There is a history of her having fainted upon one occasion, but on one occasion only. Menstruation has always been irregular as to time, and scanty in amount. She has not "seen anything" for four months past; but as the time for each period comes round she feels indications of the flow, and at these times, even though the discharge is absent, the pains above mentioned are invariably present. She has of late fallen into a delicate state of health, and I fear there is only too decided evidence of tubercular mischief in the apex of her left lung. The symptom for which she consulted me I diagnosed to be ovarian hyperæsthesia, as I could find no trace of any graver disease, and I put her upon a 30-minim dose of *Salix Nigra* three times a day. My prescription was:—

℞.—Ext. Fl. Salix Nigra ʒvj; Syr. Simplex ʒij; Aqua Cinnam ad. ʒvj.
Sig.—ʒss ter in die.

On finishing the mixture she again presented herself at my surgery, with the very pleasing information that the pain, under the influence of the medicine, became much relieved, and in two days entirely disappeared. She also mentioned that, while she had for a long time past been troubled with leucorrhœa, while taking the medicine the discharge had dried up, and no longer caused her any uneasiness. She

was unable to give any account of any physiological symptoms beyond that she thought it had a tendency to produce constipation.

The above result is a very satisfactory one, and induced Dr. Hutchison to use the fluid extract in other cases.

The following cases have also been reported upon by Dr. Hutchison*:—

Case 1.—Mrs. B., æt. 33, married, consulted me, complaining of severe pain in left ovarian region and headache, principally on left temple, from which she had suffered more or less constantly for the past few months. Patient is a woman of medium height, inclined to be stout, and of healthy appearance. She was married at the age of 21, and is the mother of five children. She has enjoyed fairly good health up to within three or four months ago, when the symptoms above mentioned began to trouble her. Menstruation has been regular as to quantity, but very irregular as to time, and it is not at all unusual for six weeks or two months to pass without the appearance of the menstrual discharge. She suffers also from leucorrhœa, but as it is never great in amount it does not concern her much. She is by no means temperate in her habits, and in consequence domestic broils are not infrequent. These troubles have, among their other effects, been the cause of making her nervous and irritable, and this nervousness she feels is becoming more and more pronounced every day. There is no history of her ever having been subject to attacks of syncope or convulsive seizures, but on several occasions she has felt an uncomfortable sensation in her throat, as of a ball forming, accompanied with a choking sensation. The pain over the ovary she describes as being of a heavy, dull, sickening nature, when severe, but when not acute it is a persistent gnawing sensation. This pain reaches its height during the menstrual epoch, and it is always the forerunner of menstruation. Headache on the left temple is not always present, but it invariably coincides with the ovarian distress, in so far that the one is never present without the other, and on the cessation of the pain in and around the ovary, the pain in the temple soon ceases to trouble her. This pain in the temple she describes as resembling a nail being driven into the skull. There is no diminution of sensation on the left side, but sight in the left eye is altered in the manner usually met with among "hysterics."

Case 2.—Mary C., æt, 22, unmarried, consulted me, anent a diarrhœa which she said had been present with more or less severity and persistency for eleven months back. She is a tall, fairly well nourished young woman with bright rosy cheeks, and it was not quite easy to credit her story that she had from four to six motions through her bowels every day for so long a period as eleven months. The flux she said was not invariably present, but that the normal habit of her bowels was at least two motions every day, and four, five and six motions was not at all unusual. It made little difference what food she partook of, but if anything she was inclined to think that when she partook soups in which the quantity of vegetables was large her bowels were the more irritable.

* Full Report in "New Commercial Plants and Drugs," No. 10, page 68.

During my examination I elicited the facts that along with the diarrhœa she also suffered from pain in the ovarian region on the left side and headaches in left temple. There was little or no pain in the back beyond a feeling of weakness. Menstruation had not been present for ten months past, and leucorrhœa troubled her slightly. On my asking if the pains in the side and headache appeared to have any connection with the discharge from the bowels, she remarked that she had often noticed that there seemed to be some relation to one another, as the one was never present without all three putting in an appearance shortly after. The usual sequence was, the diarrhœa would start first, then the pain in the ovary and, lastly, the pain in the head.

I formed the opinion that the pain in the ovary was a hyperæsthetic state of that organ and the frontal headache also a neurosis. The diarrhœa, too, I thought to be due to some disordered innervation of the intestine and another manifestation of the nervous temperament.

I placed her upon 20-minim doses of Fluid Extract *Salix Nigra* three times a day with the view of its having some effect upon the ovary, but to make assurance more assured I also added to the mixture a 10-minim dose of Liq. Morph. Hydrochl. I did not see her again for at least a fortnight, when she called upon me to say that with no medicine she had ever used—and the mixtures she had partaken of had not been few—had she had the same amount of benefit as she had from the present one. Not only did the diarrhœa stop, but the pain in the ovary and the headache also disappeared and had not troubled her since. This was the more satisfactory as for no period before had she been so long free from discomfort, if not actual pain. The morphia may have had some effect in relieving the diarrhœa, but that the Salix deserves some credit is shown by the fact that the ovarian distress was entirely relieved and had not come back, which is not my experience with morphia, the relief given with the latter drug being only temporary.

Case 3.—Mrs. C., æt. 40, married, has been frequently under my care, suffering from a variety of ailments, all of a neurotic character; but the ailment, which is always present with her, is a hyperæsthetic area situated underneath the left breast. Pain in the left ovarian region is not an unusual complaint, but is not so constant nor so hard to bear as the painful area in the side. Headaches and sleeplessness are much complained of.

The pain in the side is the subject of her greatest laments, which, though subject to frequent remissions and exacerbations, never absolutely leaves her. It has troubled her as long as she can remember, and with increasing years appears to become worse in place of better. There is no symptom of lung mischief, and all her thoracic and abdominal viscera appear to be healthy. The pain she describes as of a lancinating character. At times an uneasiness is set up over the left ovary, and this uneasiness is sometimes so great as to amount to actual pain at the menstrual epochs especially, and at these times it has sometimes been so severe as to distract her attention altogether from the disturbance in the side.

She has often remarked a relation between the pain in the side and the pain in the ovary. When she has passed an extra sleepless night, when household matters go wrong, if her emotions are called into play then comes the pain, and if it did happen to be present previously, with the onset of the emotions it receives a marked increase in acuteness. The ovarian hyperæsthesia is a constant attendant upon her catamenial periods, which are quite regular, both as to time and quantity. Between the catamenial periods she is troubled with leucorrhœa.

I have given her many different medicines, with many different objects in view; have also been, to a certain extent, successful in relieving her of her headaches and sleeplessness; but any efforts to alleviate the ovarian or thoracic distress has only met with very moderate success, till I gave her Ext. Fl. *Salix Nigra* in 20-minim doses, which she said quickly relieved the ovarian trouble, and was not inoperative on the pain in the side.

Another case in which I tried the drug was that of a young man who had been much troubled with nocturnal pollution. The following is a short account of the case:—

Wm. B., æt. 22, unmarried, consulted me on March 3rd, complaining of seminal emissions which troubled him as often as three times a week.

He was given 20 minims of Ext. Fl. *Salix Nigra* three times a day, and at the end of five days he called upon me again to say that since taking the mixture he had not been troubled with his ailment. I told him to continue his medicine for quite some time. I did not see him again for weeks, when one day he again called upon me. He said that he had not had an emission since he commenced the medicine.

In all of the cases my prescription was—Ext. Fl. *Salix Nig.* ʒ ss.; Syrup, ʒii; Aqua Cinnam, ad. ʒvj. Dose, ʒss. to be taken three times a day.

None of the patients remarked any physiological effect beyond relief of symptoms for which the remedy was prescribed, unless it might be a tendency towards constipation.

One of the surgeons to St. Peter's Hospital for Urinary Diseases, writes that Fluid Ext. *Salix Nigra* is a powerful sexual sedative, which he has administered with marked success in cases of enforced continence. That in seminal emission its action is good; but inferior to the *Potassium Bromide*. This, however, being counterbalanced by its non-depressant qualities. In those cases of prostatorrhœa, which are so tedious and distasteful to the practitioner, the use of the extract in ʒ j doses thrice daily exceeded his expectations. The case which had wearied him by a long out-patient attendance, and which had resisted all remedies, including prostatic cauterisation pronounced himself immediately relieved, and noticed the discharge considerably reduced. This action is more probably due to its sedative than its astringent qualities. Lastly, few cases are more troublesome than are those of urethral neuralgias set up by gonorrhœa. The discharge may have disappeared, and yet the patient experiences pain, either during micturition or in the intervals between the act. After eliminating stone, stricture, urethral granulation, and over-acid urine, the patients are now usually placed on Salix, with generally a gratifying result.

SUMMARY OF MEDICAL REPORTS.

From W. EASBY, Esq., M.D., *Peterborough.*

Male, age 26, **Gonorrhœa**, 6 WEEKS UNDER OBSERVATION.—This patient had very severe pains, which was evidently caused by inflammation of Cowper's glands. Suppositories of Morphia only gave temporary relief, so I put him on Salix Nigra which soon gave him permanent relief. As this is the only case I have tried it in, I cannot say more than it gave great relief, and I will certainly use it again when required.

From Dr. J. HUTCHISON, *of Glasgow* (6871—3/5/88).

Mr. S. B., age 22, **Nocturnal pollution troubled him, as frequently as three times a week. Not yet developed into spermatorrhœa.**—Salix had to be increased to ʒi. doses. Cured the ailment during time he was taking it, but it came back about ten days after it was stopped. Did not think it diminished passion, but certainly kept discharge under control.

Mr. Wm. L., age 21, **Spermatorrhœa. Discharge noticed at stool and on micturition.**—A course of Salix effectually cured evil. Did not think, however, desire was much diminished.

Mr. McN., age 25, **Nocturnal pollution twice a week. Strong desire.**—Salix in ʒi doses produced great diminution in frequency of pollution. Patient also thought passion not so strong.

Jn. S., age 20, **Nocturnal pollution twice a week.**—Same as above.

Miss C., age 19, **Pain in ovary, side, and head, all on left side. Hysterical convulsive attack on one occasion.**—Patient mill-worker, and noise of weaving looms had an influence. Accident in mill direct exciting cause. On that occasion had hysterical attack. Salix relieved pain in ovary, etc., and has felt better in health, and nerves more steady since taking it.

Mrs. C., age 35, **Same symptoms as last, but never any convulsive seizure, though attacks of syncope frequently.**—Mother of former patient, of anxious, irritable temperament. Salix produced marked improvement both in mind and body, and rapidly relieved pain in ovary and side.

Miss A., age 30, **Ovarian pain and headache. No attacks of syncope. Frequent tendency to weeping.**—Patient dressmaker, and business troubles probable cause. Salix produced great improvement in general health, and had the effect of rendering patient more cheerful.

Miss R., age 28, **Pain in ovary, side, and head, all in left side. Excessive palpitation. No convulsive seizures, but great tendency to syncope.**—Family troubles probable cause. Salix combined with Tinct. Strophanthus. Great relief to all symptoms.

Miss S., age 20, **Pain in ovary. Periods too frequent. No convulsive attacks, but tendency to syncope and great "nervousness."**—Salix combined with Witch Hazel cured menorrhagia, and Salix made great improvement in other symptoms.

Mrs. S., age 51, **Pain in side, right. Ovarian pain sometimes. Highly neurotic excessive headaches.**—Had experienced excessive domestic worry for many years past. Pain in head and side always bore strong relation to periods of domestic disturbance. All remedies tried with little effect. Salix, according to patient, both relieved pain and helped her to "bear up" against annoyance.

Miss S., age 22, **the only salient feature was excessive frontal headache, left.**—Daughter of former patient. History of attacks of syncope. Highly neurotic. Salix, while not greatly relieving headache at time, acted as a nervous sedative, attacks were not so frequent.

Miss McD., age 21, **Diarrhœa pain in stomach, ovary, side, and headache.**—On one occasion of domestic bereavement diarrhœa was set up along with attacks of syncope, seemingly nervous, and ever since then, on fright or worry, same symptoms returned. Salix, combined with Liq. Morph. Mur., had great influence for good.

Mrs. McA., age 26, **Pain in ovary, side, and head, all on left side. No attacks of syncope, but patient often felt "like it."**—One of typical cases in which Salix has done good in my hands. Patient neurotic and emotional.

Mrs. D., age 33, **Same as last.**—Alcoholism and domestic disturbances probable cause. Salix produced greater stability of nervous system, and relieved various symptoms quickly and effectively.

Mrs. S., age 36, **Same as last.**—Long continued delicate health probable cause. Salix both improved general health and relieved symptoms.

From WALTER FOWLER, Esq., M.A., M.B., F.R.C.S., 145, *Bishopsgate Without, E.C.*

Mary Ann B., age 42, **Ovarian Hyperæsthesia, with no obvious cause. Neurotic temperament,** 2½ YEARS UNDER OBSERVATION.—ʒss dose of Liquid Extract of Salix Nigra thrice daily. This patient had been treated with bromides, tonics, diffusible stimulants, &c., for upwards of a year with no benefit to her. I tried Salix Nigra, a few doses of which always gave her complete relief.

Polly C., age 24, **Dysmenorrhœa,** 2 PERIODS UNDER OBSERVATION.—ʒss doses of Liquid Extract of Salix Nigra thrice daily. Great relief.

Jane C., age 40, **Dysmenorrhœa,** 1 PERIOD UNDER OBSERVATION.—ʒss doses of Fluid Extract of Salix Nigra thrice daily. Great relief.

Marie B., age 36, **Ovarian hyperæsthesia,** seen twice in consultation at intervals of a month.—ʒss doses of Liquid Extract of Salix Nigra thrice daily, increasing to ʒi for a month. No relief. Subsequent examination revealed anti-plexion of uterus, for which I have prescribed a pessary.

As a result of experience in foregoing limited number of cases, this drug in my hands has been most valuable in cases of ovarian hyperæsthesia where no palpable cause exists for its production (note failure in case of antiplexion, and also in cases of congestive dysmenorrhœa).

From TELFORD SMITH, Esq., B.A., M.D., *St. Peter's, Ipswich.*

Miss M., age 27, **Ovarian hyperæsthesia,** 1 MONTH UNDER OBSERVATION.—Salix Nigra cordials, ʒij t.i.d. ex. aq., followed by tonics. Relief in symptoms and freedom from pain. Valuable in these cases, I think.

From FRED. A. A. SMITH, Esq., M.D., *Portland House, Cheltenham.*

Man, age 26, **Nocturnal emissions.**—Salix Nigra ʒss t. d. ex. aqua. All emissions ceased after three days treatment.

Female, age 27, **Nymphomana.**—Salix Nigra ʒss t. d. ex. aqua. This patient became very much better under the influence of this drug, and her hysterical attacks nearly ceased. I consider Salix Nigra to be a powerful sexual sedative and appears to leave no bad effects.

From Dr. A. SPEARING, *Shaw.*

Male, age 31, **Satyriasis,** 10 DAYS UNDER TREATMENT.—2 drachms of Salix Nigra Cordial (Christy's) at bed time. This gentleman was in a good position in life, and had been under my treatment for two months, he was improving but slowly under the Bromides and other treatment. He was a married man, and wished very much that he could be cured, for as he said his life was miserable from his insatiable desire. I unfortunately had not much of the Salix Nigra by me, but what I had I gave him. I saw him twice while he was taking it, the last being when he was on his way to join the steamer to America, he expressed himself tersely in these terms :—" Doctor, I think I am nearly cured, that last bottle acted with me like magic, I hope it will be permanent." I believe Salix Nigra to be an excellent sexual sedative for both males and females. The taste of the Fluid Extract is much objected to, but this is remedied if the Cordial prepared by Christy of London is used.

From DR. LAIRD, *Sligo, Ireland.*

Female, age 18, **Ovarian hyperæsthesia,** UNDER OBSERVATION FOR MONTHS.—ʒj D. Gave much relief. Acted well in this case.

From Surg. C. W. HAMILTON, *Royal Marine Artillery, Portsmouth.*

Pensioner, age 40, **Insomnia** (morbus cordis functional), 1 MONTH UNDER OBSERVATION.—Salix Nigra. Refreshing sleep, less palpitation. Valuable hypnotic in nervous cases.

From F. R. MARTIN, Esq., 26, *Granville Street, Manchester.*

J. F., age 25, **Dysmenorrhœa,** with concomitant ovarian irritation, THREE WEEKS UNDER OBSERVATION.—Salix Nigra proved negative thus far. Cannot yet determine if of value.

From J. GALT, Esq., F.R.C.S. Edin., *Bridge-of-Allan, N.B.*

Miss M., age 21, **Ovarian hyperæsthesia** (accompanied with leucorrhœa), 6 MONTHS UNDER OBSERVATION.—Previously hot douche, Bromides, Iron, Blisters, and latterly Salix Nigra. Little or no improvement in the case till the Salix Nigra tried, when 16 doses seemed to completely cure it, but it returned again on exposure to wet, to be again relieved. Most valuable.

Mrs. C., age 50, **Excessive Menorrhagia climacteric period,** FOUR DAYS UNDER OBSERVATION.—Rest and Salix Nigra. Discharge alarming in its profuseness. Stopped by one dose of the Extract. Most valuable.

Mrs. G., age 42, **Excessive Menorrhagia climacteric period,** 2 WEEKS UNDEK OBSERVATION.—Salix Nigra ; kept on feet attending to household work. Much relieved at beginning, latterly not so marked. Pain in micturition, at once relieved by Salix Nigra.

Miss T., age 25, **Example of marked Neurosis, with severe chronic rheumatism,** FOUR MONTHS UNDER OBSERVATION.—Acid Salicylic, Iron, &c., Extract Salix Nigra occasionally. Found the Salix Nigra enabled her to rest quietly and secure sleep.

Mrs. B., age 30, **Example of marked Neurosis, with Pulmonary Congestion,** ONE MONTH UNDER OBSERVATION. Acid Salicylic, Iron, Caffeine, &c., and Salix Nigra. Found the Salix Nigra enabled her to rest quietly, and secure sleep.

Mr. B., age 23, **Cystitis,** TWO MONTHS UNDER OBSERVATION.—Extract Salix Nigra, afterwards Amm. Benzoic. When first called in suffering much pain and constant desire to micturate. One dose of the Salix Nigra gave rest for several hours, and subsequently whenever it has been used on return of pain the same results. Most valuable.

Mr. H., age 65, **Cystitis,** TWO MONTHS UNDER OBSERVATION.—Extract Salix Nigra, afterwards Amm. Benzoic. Given Salix Nigra at my suggestion (patient at a distance), said to be cured. Most valuable.

From SYDNEY HAYNES, Esq., *Stansted, Essex.*

Salix Nigra did not succeed in a very severe attack of Dysmenorrhœa, but neither had any other treatment, the patient having been under at least three eminent specialists with no favourable result. I have not tried it in any moderate case.

Shorthand notes from a lecture on Therapeutical Innovations, delivered at St. Peter's Hospital for Urinary Diseases, March 21st, 1888 :—

"During the last year, I have been employing Salix in cases of long-standing strictures, and have found it of benefit to patients who have been suffering from the effects of constant irritation of the mucous membrane of the prostatic and membranous sections of the urethra, consequent upon insufficiently dilated obstruction, or over frequent instrumental interference, such cases have taken Salix with relief to their distressing symptoms. The following is a typical case :—

"W. S., aged 47, married, has had stricture for 18 years. Sixteen years ago he underwent gradual dilatation, and since this time he has passed an instrument for himself every week. He comes complaining of a chronic gleet—which is slight in amount—of a continual and distressing irritation in the urethra, not amounting to actual pain but which worries him rather than causes him actual suffering. It is referred at all times to, or near the neck of the bladder. There is not much frequency of micturition. The urine is not over-acid. Extract Salix Nigra, in 5 gr. lozenges, relieved him completely. This case was obviously irritation of prostato-membranous urethra."

RECAPITULATION.

BENEFITTED		FAILED.
4	Nocturnal Emissions	0
1	Satyriasis	0
1	Spermatorrhœa	0
3	Dysmenorrhœa	1
16	Ovarian pain and hyperæsthesia	1
2	Menorrhagia	0
1	Gonorrhœa	0
1	Nymphomana	0
1	Insomnia	0
2	Neurosis	0
2	Cystitis	0
1	Stricture	0
35		2

A microscopical and chemical examination of the bark is now being made by Dr. R. Blondel, of Paris, and will appear in the next issue of "New Commercial Plants and Drugs."

SIEGESBECKIA ORIENTALIS.

Since the last issue of this publication I have received the following reports of the action of Tincture of Siegesbeckia as a local application in Thrush, Spongy Gums, &c., viz. :—

From Dr. J. HUTCHISON, *Shawlands, Glasgow.*

Child, age 6 months, **Thrush,** 1 WEEK UNDER OBSERVATION.—Very severe case. Patches almost coalescing. Constitutional symptoms. Siegesbeckia ʒii. to ʒii. Syrupus painted over mouth, tongue, &c., soon brought healthy change. Indeed I have never seen chlorate boracic acid nor any other remedy act so quickly.

Mrs. McB., age 32, **Spongy Gums,** 1 WEEK UNDER OBSERVATION.—Gums soft, red, and inflamed, most marked around root of teeth. Foul breath and constitutional symptoms. Siegesbeckia ʒp., glycerine ʒi., and aqua to ʒvi., as a mouth wash, soon effected cure.

Mrs. H., age 42, **Spongy Gums,** 4 DAYS UNDER OBSERVATION.—Same symptoms, same prescription, same result.

Baby, age 14 months, **Thrush,** 1 WEEK UNDER OBSERVATION.—Not severe case, but Siegesbeckia ʒi. to ʒii. aqua acted quickly and efficiently.

Janet Cl., age 25, **Tinea Circinata,** 3 WEEKS UNDER OBSERVATION.—Spot size of penny piece on cheek. Appearance characteristic. Siegesbeckia and glycerine, equal parts, brought about cure.

A. M., age 5, **Tinea tonsurans,** 4 WEEKS UNDER OBSERVATION.—Siegesbeckia. All but well, another week will see the case cured no doubt. Good so far as our limited experience of the drug is concerned.—We have another case under observation (10 days) for tinea favora. Cannot yet say.

Miss S., age 19, **Ulcer inside cheek,** 2 WEEKS UNDER OBSERVATION.—Small ulcer, size of sixpenny piece inside cheek. Painted with Siegesbeckia and glycerine night and morning. Cure.

Jn. McF., age 22, **Tinea Sycosis,** 3 WEEKS UNDER OBSERVATION.—Contracted disease at hairdresser's. Siegesbeckia and glycerine acted efficiently.

Agnes A., age 19, **Tinea Sycosis,** 10 DAYS UNDER OBSERVATION.—Tinct. Siegesbeckia and glycerine, equal parts, rubbed well into affected part. Patch became broken up into smaller patches, smaller and smaller, till all disappeared.

Jas. M., age 8, **Tinea Versicolor,** 3 WEEKS UNDER OBSERVATION.—Large circular patch on calf of leg. Same recipe ordered. Result, same cure.

Jas. W., age 5, **Tinea Versicolor,** 2 WEEKS UNDER OBSERVATION.—Circular patch on hip, size of crown piece. Same recipe, same result.

Wm. K., age 12, **Tinea Favosa,** 6 WEEKS UNDER OBSERVATION.—This case was very obstinate. Several times cure seemed almost reached, but again disease appeared on same patch. Full strength tincture was used along with epilation, which had result desired.

Wm. S., age 25, **Tinea Sycosis,** 3 WEEKS UNDER OBSERVATION.—Disease thought to be contracted at hairdresser's. Consisted of irregular shaped masses on chin with characteristic appearance. Siegesbeckia and glycerine effected cure.

Mrs. McS., age 32, **Tinea Sycosis,** 2 WEEKS UNDER OBSERVATION.—Unable to tell where disease contracted. Large patch on neck size of crown piece. Soon gave way to Siegesbeckia and glycerine.

Jn. McD., age 6, **Tinea Circinata,** 2 WEEKS UNDER OBSERVATION.—Large patch size of florin on ribs. Appearance characteristic. Siegesbeckia and glycerine, equal parts, effected cure.

Siegesbeckia painted on to "ringworm" does a good deal of good, but severe cases make little headway. Mild cases recover with no other application.

From A. WYLIE, Esq., 307, Clapham Road, S.W.
(1275—15/3/88).

Some time ago you kindly sent me *Tr. Siegesbeckia Orientalis* for ringworm. It seemed to cure the disease on the neck with a few

applications; that on the head seemed to get on very well, but my supply ran short, and I had to finish with other applications. I should like to give it another trial, and would like to know the price of 3 ozs.

From J. SOUTTER, Esq., Hedon, near Hull.
(4359—13/3/88).

Enclosed please find order for 3s. Kindly forward me 2 ozs. *Tr. Siegesbeckia Orientalis.* I am getting good results in several cases of *Tinea Tonsurans* by its use.

From Miss MITTENDORFF, Clayton House, Epsom.

The use of the Tr. of *Siegesbeckia Orientalis* has been most beneficial to the cases of ringworm in this orphan home.

ULEX EUROPÆUS.

Two important preparations, Liquor Ulex Diureticus and Ulexine have been obtained from the seed of the common furze, gorse, or whin (*Ulex europæus*), found principally in Great Britain. Mr. A. W. Gerrard, to whom is due the credit of first extracting its active principle, states that the furze has from time immemorial been used in Scotland as a domestic diuretic remedy. Recently it has been tried in the University College Hospital, and found to be a powerful diuretic.

Dr. Sayer found that the drug, in a case of dropsy, increased the amount of urine passed from 25 to 80 ounces daily.

The furze is a valuable addition to the group of diuretics, as its action in all cases, (except in stricture and renal congestion, when it should only be administered with care), shows that diuresis lasts for but a few hours; the prescriber thus being able to obtain just the required amount of diuresis. *Liquor Ulex diureticus* should, therefore, be prescribed in small and repeated doses.

Dr. J. Rose Bradford, in the *Journal of Physiology,* Vol. III., No. 2, contributed a paper on the physiological action of Ulexine, from which I extract the following interesting facts :—

"Five milligrammes were injected into the dorsal of a frog, producing in about five minutes cessation of the respiratory movements, abolition of reflexes, and complete paralysis of all voluntary movement. The heart was slowed and weak, not completely contracted or emptied of blood during systole. From this experiment it was determined that Ulexine acted as a nerve poison, and by a subsequent experiment that it is the peripheral structures, presumably the end plates, that are poisoned. Two milligrammes, injected subcutaneously, quite paralysed a large female frog, the voluntary movements and reflex actions disappearing first, and the former before the latter, whilst the muscles still responded on nerve excitation, which then disappeared, the contractions subsequently evoked by direct excitation were weakened, but the muscles did not respond to direct excitation unless the dose was very large, and so Ulexine in comparatively large doses is a muscle poison.

"In the eel, an injection into the peritoneum weakened and slowed the heart, inhibition not being obtained reflexly by stimulation of the branchide, &c., nor by direct stimulation of the vagus itself. Ulexine, therefore, paralyses the vagus and the motor nerves somewhat in the

same way as curare, except as regards the action on the respiration in the frog, where the action is totally dissimilar. Injections of Ulexine—1 cc. of a 1 in 300 solution—into a frog, impaired the respirations in 30 minutes, there being long intervals without any, and then a series of short and superficial respiratory acts. The frog at this time could hop about perfectly, the corneal reflex still being present. At 2.50 voluntary power was recovered, but the respirations were still infrequent. This shows that Ulexine acts powerfully on the respiratory mechanism in doses which only produce a slight and transient paralysis of voluntary movement, and these doses also produce quivering of the voluntary muscles. Larger doses arrest the respirations some time before those of voluntary movements.

"In the mammal, Ulexine is a powerful respiratory poison, intravenous injection of 3 milligrammes in a chloroformed cat killing it with convulsions in from 2 to 3 minutes; but if artificial respiration be kept up it will live, as with curare. Five milligrammes of Ulexine injected into a cat, increased the respirations from 26 to 40 per minute, and a further injection of 1.5 milligrammes entirely arrested, after convulsions, the respiration, the animal being kept alive by artificial respiration. A peculiar quivering, due to fibrillar contraction of the voluntary muscles, was noticed even some time after all respirations had ceased. Curiously enough, they persist even when a limb had been entirely detached. The drug thus acts first as a stimulant, then as a depressor of the respiratory mechanism, and in larger doses by paralysing the motor nerves.

"Ulexine raises arterial tension very considerably, in some cases almost doubling it for a short time. During this action the heart is very much accelerated, and there is a marked diminution of the force of the cardiac beats. In the case of a cat, 5 milligrammes raised the beatings of the heart from 150 to 228 per minute. Though the heart is greatly weakened with even a 25% solution, the drug will not kill through the heart for a considerable time if artifical respiration be kept up. With large doses the paralysis of the vagus is complete.

"Ulexine has a powerful effect on the kidney, quadrupling the urinary flow in a dog under chloroform, but the effect of small doses, such as 12 milligrammes, is transitory. The necessary doses to maintain diuresis would kill through the respiration.

"Ulexine has, therefore, a powerful and widespread action, being a nerve and muscle poison, a respiratory poison, raising arterial tension and producing diuresis; but the respiratory action being produced by the smallest doses, seems to be most important."

In the *Archives de Physiology* Mr. Pinet contributed recently a paper, in which he states that Ulexine influences the nervous system, but not the muscular system, which contracts on the application of the electric current, even twenty-four hours after the administration of the drug. From the results of his experiments he concludes that Ulexine is the antidote to Strychnine, as the following experiment showed, viz., $\frac{1}{300}$th of a grain of strychnine was given to a frog, and a few moments afterwards from $\frac{9}{20}$ths to $\frac{3}{4}$ths of a grain of Ulexine; the latter prevented and arrested the action of the strychnine. This antagonism is, however, only temporary, for if the animal survives, convulsions and insensibility supervene in the course of a few days. Ulexine, therefore, only for a time masks the action of strychnine, the latter being much slower than the former in its effects.

HAYA POISON.

Early in 1887 I received from Mr. John Hay, of Aden, some samples of produce obtained from the neighbourhood of Harrar, in Abyssinia, amongst which was a small quantity of a treacly-looking substance, which was sent under the name of arrow-poison. In order to distinguish this substance from other similar poisons, I decided to name it after Mr. Hay, and it was then sent to Prof. L. Lewin, of Berlin, who had already contributed some valuable papers on new products, with a request that he should ascertain the composition and physiological properties of this poison. I was not then cognizant of the exact district from whence the poison had been obtained, nor of any particulars as to its origin, and it was not until a question arose after the publication of Prof. Lewin's paper as to its nature that the information could be given.

The discovery made by Prof. L. Lewin, that this substance contained anæsthetic properties, led him to examine its composition more closely, when he found it to contain particles of a vegetable substance, which proved to belong to the Sassy or Casca tree (*Erythrophlœum guineense*). Subsequent experiments with the alkaloid Erythrophlœine in the form of hydrochlorate confirmed his first supposition, for this alkaloid was found to have the property of a local anæsthetic, said to be more powerful and more lasting than possessed by Cocaine.

The following particulars, which appeared in the *British and Colonial Druggist*, embody Prof. L. Lewin's report upon this poison :

Since the introduction into practical therapeutics of strophanthus, a fresh stimulus has been given to the examination of new drugs, especially of those products from which the tribes of Africa derive the arrow poisons.

Dr. L. Lewin, of Berlin, who has already enriched our knowledge of the kava-kava and sassy bark, has just concluded an interesting research upon a new arrow poison called Haya poison that Messrs. T. Christy and Co. sent to him, and which they had received from Africa.

Dr. Lewin in his report states that he received from Messrs. Christy a box, containing some shapeless fragments of an average length of 1 centimetre. A superficial examination of the poison showed it to consist of pieces of two different shapes. The first to be examined were amorphous ; dark brown ; but lighter in the fracture, where the colour was more of a brownish green ; easily broken up and a smooth section when cut ; when squeezed became flat, and could only be reduced to a fine powder with difficulty. In this powder, as well as in the fracture of the pieces, numerous glistening particles were observed. The other pieces were almost black, somewhat of the colour of aloes, and presented when splintered the

translucency of the latter ; the pieces had mostly a decided shape, being convex externally, and having on the inner surface a sharp-edged furrow, suggesting almost that it was occasioned by a narrow angular instrument having been pressed on the surface.

Dr. Lewin is of opinion that the mass had been attached to the barb of an arrow, and this he says, is all the more probable, as in some of the furrows he noticed a good deal of iron-mould. The pieces which could not be cut up were brittle, fractured, and splintered, like aloes, and were easily reduced to powder, which, unlike that of the pieces first described, was not sticky. In the powder similar glistening particles to those observed in the first were seen. Upon carefully examining these particles, which were freed from the powder of both the amorphous and the shaped pieces by an aqueous solution, Dr. Lewin found them to consist of gold spangles.

Both powders were odourless and tasteless, readily absorbed moisture from the atmosphere, the amorphous powder doing so to a much higher percentage. Both were soluble in water, especially boiling water, the solution of the amorphous powder varying from a straw to a brown colour ; and that of the second powder being of blackish colour, reminding him of a solution of apomorphine ; both solutions in a minor concentration showed a distinct opalescence. Upon filtering the solutions there remained a residue containing flint and mica, and having a shimmer like mother-of-pearl.

Twice did the doctor separate from the residue some seed husk, which, however, could not be defined even by an expert. The epidermis of a bark was also obtained, which, by careful and close examination with specimens in the doctor's collection, led him to suppose that they consisted of pieces of sassy bark (*Erythrophlœum judiciale.*) This supposition was confirmed by Mr. Hennings, of the Botanical Museum of the University of Berlin, and by Dr. K. Schumann, who kindly compared it with specimens of sassy in their possession.

From the amorphous poison abont 60 per cent of a solid substance was extracted by water. The reactions of the aqueous solution were alkaloidal, and remained unaltered when heated in Fehling's solution. The solution of even the smallest particle, when boiled with mineral salts, became yellow, and when treated similarly with Fehling's solution, a bulky mass of oxide of copper was separated. A glucoside was also found. Phosphoric* acid, picric acid, and tannic acid yielded from a strongly acidulated aqueous solution of the poison, a flaky precipitate. The precipitate from phosphoric* acid, when treated with baryta, yielded a minute quantity of a golden brown substance, having a decided effect upon animal's eyes, and which gave certain reactions with sulphuric acid.

By repeatedly treating the poison with alcohol a pale yellowish active principle was obtained which, in the case of the darkbrown pieces of the poison, was colourless. By adding water to this alcoholic solution, it became opalescent, and after a short time a colourless, flakey and amorphous substance was precipitated, which does not affect the eye when applied to it. With a view to ascertaining the quantity of soluble matter in alcohol, 2 grammes of the amorphous poison were well soaked in a little cold alcohol, and then in a little hot alcohol, and after exhausting the alcohol 0.35 grammes of a yellowish residue was obtained. This residue was repeatedly washed, and finally a micro-crystalline mass was yielded, whose crystals melted when heated, and re-crystallised on cooling ; these crystals were dissolved by ether and alcohol, produced no effect upon animals, and were separated from the alcoholic residue by treating it with a little water, and then filtering.

After the removal of the water, there remained a substance which, by

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* Wolfram.

Lassaigne's process, showed nitrogen, also a glucoside reaction; this substance had an energetic local and general action on animals.

The doctor calls particular attention to the fact that the residue, its solution and one of the whole poison, placed on a porcelain palette with concentrated sulphuric acid, afterwards cautiously and perseveringly manipulated until dry, and then heated, gave, when warmed, a clear pink colour. After the addition of a dilute acid to the aqueous solution of the alcoholic residue, microscopical crystals, mostly rhomboid, were isolated.

After a careful treatment of the poison by alcohol there still remained a substance soluble in water, which seemed to possess a toxic effect, unlike that of the alcoholic extract. Treatment with ether yielded no active principle; after passing off the ether the residue was micro-crystalline, and showed fine needle-shaped crystals. Want of materials prevented a more ample chemical examination of the poison.

Having often heard of an arrow poison which produced insensibility, Dr. Lewin made experiments to ascertain whether the Haya poison produced anæsthesia of the cornea, and he was not a little surprised to find this effect to be obtained with all the animals upon which he tried it. Anæsthesia took place later than by cocaine, but lasted for eight or ten hours, gradually diminishing in its strength during that period. The application produced a passing irritation on the eye.

The action on the frog's heart of $\frac{1}{2}$ to $\frac{3}{4}$ concentrated aqueous solution, injected with Pravaz's syringe, was to diminish the pulsations from 30 to 8 per minute, with paralysis of the extremities. These effects were also noticed in warm-blooded animals. The after effects were most remarkable, especially in small dogs, in which the respirations, after about 20 to 30 minutes, became arythmical, very rapid, with pauses of short duration, becoming, later on, protracted with dyspnœa and languor; the head drooping, while the position of the body remained normal; there was free salivation. Then the head began to tremble, the animal lay on its side, and the extremities became paralysed; dyspnœa set in, and with it peculiar convulsions, during which the head was drawn close up to the body, the eyes were convulsively closed, and an undulating spasm passed over the whole length of the muscles of the body, and appeared also to affect the intestines; the almost paralysed limbs were not subject to these convulsions. Decreasing sensitiveness of the surface of the body followed, and death ensued without convulsive effort. The convulsions were noticed to be more severe when using the poison extracted by alcohol and diluting it with water.

The aqueous, or alcoholic solutions, injected subcutaneously into a pigeon produced constant vomiting and frequent evacuations, protracted breathing, as noticed in the previous case, dyspnœa then appeared, and death took place, with convulsions of short duration. Administered to pigeons by the beak large doses only produced constant vomiting and diarrhœa, while small dogs and pigeons, when even so small a quantity as 0.03 gramme was injected subcutaneously, died from the effects. Pigeons remained healthy when even as much as 0.22 gramme was given through the beak.

Dr. Lewin concludes from his experiments that the Haya poison may safely be classified with the African poisons already known, or perhaps be identical with them. The effects of the Haya poison, the Doctor said, reminded him very much of those he had noticed with the poison of the Somali, the so-called Ouabaïo, and the effects of the latter resembled the intoxication produced by the Erythrophlœum. Besides these coincidences his suspicions were more or less confirmed by the fragments of epidermis which he had found in the poison, and which so strongly reminded him of

the Erythrophlœum bark, which, 13 years previously, he worked upon. It was not, however, known that the Erythrophlœum contained a principle having a local anæsthetic action, neither was the sulphuric acid reaction which he discovered in the Haya poison known.

His suppositions were found to be correct, for a 2 per cent. concentrated solution of hydrochlorate of Erythrophlœine obtained from Merck immediately produced, with contraction of the pupils, insensibility of the eye, lasting from 10 to 24 hours; but the irritating principle the Erythrophlœine contains is present in too great a quantity for it to be neutralised in the concentrated solution; and this was proved by it producing in cats irritation of the cornea, much salivation, running at the nose and violent sneezing.

It is worthy of notice that solutions of 0.25 per cent., or even 0.10 per cent. of Erythrophlœine produced, without apparent irritation, in cats, dogs, guinea-pigs, &c., anæsthesia of the cornea after about 15 to 20 minutes, as was the case with the Haya poison, the pupil remaining unchanged for many hours.

A solution of the Haya poison was injected subcutaneously into a guinea-pig, and produced an insensibility of the part treated so great, that he was able to cut down as far as the muscles without any discomfort to this most sensitive animal. Frogs in which tetanus was produced by injecting Erythrophlœine into the leg, showed no reaction of that limb when pricked, and the tetanus could not be removed.

Dr. Lewin says he was also able to obtain, with the salts of Erythrophlœine, that wonderful reaction with sulphuric acid, which he is surprised has so long been overlooked.

In conclusion, Dr. Lewin says he has shown that Erythrophlœine is contained in the Haya poison, if only in minute quantities, and that the activity of the poison is partly due to its presence. As soon as he is able to obtain more materials he intends to go further into these matters, and he states his satisfaction at the discovery he was able to make of a new anæsthetic.

Soon after the publication of this report much discussion took place as to the origin of the poison and its name. Many trials were given to the new anæsthetic (Erythrophlœine), both in this country and on the Continent, resulting in the verdict that though Erythrophlœine did possess a decided action as an anæsthetic, it appeared to contain some irritating principle, which would render its adoption for ophthalmic purposes unadvisable.

Since the publication of Prof. Lewin's paper, I am glad to announce that many experienced chemists and physiologists, both on the Continent and in this country, have undertaken to investigate this interesting substance, of which a few ounces reached me a month or two since from Mr. Hay.

EUCALYPTUS HONEY.

In May, 1884, Mr. E. Guilmeth, a distinguished French naturalist, during his travels in Australia, noticed at the summit of one of the Eucalypts a curious formation, which greatly puzzled him. Thinking he had discovered some gigantic gall he made as careful an examination of it as he could with a field-glass; after spending some time in this way, he heard a gradually increasing buzzing, and saw thousands of black insects, smaller than the bees of this country, hovering round an aperture in what he had thought to be a gall. He at once concluded that it was a hive, and that the bees were of a family hitherto unknown to him. Being desirous of possessing the hive, he gave orders to his followers to cut down the tree, and while this was being done he retired to a spot whence he could watch the movements of the bees. He was much surprised to see some of the bees fly to within a few yards of the workmen and return rapidly to the hive, evidently, in his opinion, playing the part of scouts; as soon as one lot had returned to the hive, another came down to return as quickly, and so on till the work of cutting down the tree was accomplished. The measurement of this Eucalypt was 7 metres diameter, and about 80 metres in height. Before pulling it to the ground the men were carefully protected on the hands and face, so that when it fell the bees swarmed round them without any serious effect. The Queen was soon induced to leave the hive and with her went her subjects. Mr. Guilmeth then tasted of the honey, and found it to possess all the flavour of the Eucalyptus essences; this discovery was so important that he collected a supply of the honey and forwarded it to Dr. Ch. Thomas-Caraman, of Forges-les-Eaux, in Normandy, for examination, who presented a paper on the subject to the Academy of Medicine in Paris, in January, 1887.

Specimens of the bees were shown, and as in no books of reference any trace could be found of this bee, it was named *Apis nigra mellifica*. The bee is small and quite black, with a trunk appearing much more developed than in the bees of France or Algeria. It is interesting to note that Mr. Guilmeth tried, without success, to acclimatise this bee in Tasmania; also, that experiments were made in Algeria to get the bees there to take to the Eucalyptus flower, but with no better success. It is well known that Narbonne honey owes its peculiar flavour to the rosemary

which abounds in the neighbourhood, and that that of Mount Hymettus is due to the Labiates. It was, therefore, thought that the domestic bee might be made to frequent the Eucalyptus flower and leaf, and thus a supply of this valuable honey be obtained such was not the case, as the bees gradually died off.

Eucalyptus Honey is not an artificial product, but a pure honey, containing, as will be seen from the following analysis made by Mr. Ch. Herisson, Director of the Chevrier Laboratory in Paris, all the valuable principles found in the Eucalyptus tree, and to the presence of which are due all its wonderful antiseptic and anti-malarial properties.

Sugar (mostly lævulose)	611.6
Ash	1.8
Moisture	215.6
Active principles, *i.e.*, Eucalyptol, Eucalyptene, terpene, cymol, colouring, resinous and aromatic principles ...	171.0
	1000.0

Its rotary power in polarized light was 22° and its density 1·44.

A glance at the above figures will at once establish the great importance of this honey as a nutriment and as a therapeutic product.

Various experiments were made by Mr. Herisson to artificially obtain this honey by mixing the various ingredients together with ordinary honey, but it was found that no amount of careful stirring and other treatment would prevent the active principles from separating and gradually volatilizing. Eucalyptus Honey, filtered at a temperature of 68° Fahr., presents the appearance of a thick transparent and homogenous syrup, of a deep orange colour, with an odour which at once points to its source. It is very soluble in water, milk, and wine, but less in alcohol; it is difficult to ferment, on account of the large proportion of sugar which it contains.

Dr. Thomas-Caraman gave some of the honey in warm milk to dogs, upon which it produced slowing of the heart's action, and a surprising diminution in the pulsations: in a small dog, from 124 to even as low as 70 per minute, the temperature being reduced by 1°. These effects lasted about 24 hours, and were accompanied by drowsiness, but without toxic depression. Upon himself, the Doctor found it, if taken in warm milk, to yield a most pleasant

beverage, and to produce, after a few minutes, an agreeable sensation of warmth throughout the body,* the active principles of the honey being eliminated through the larynx and the bronchial tubes, rendering the voice clearer and more resonant; the breath became perfumed, and the lungs acted in a freer and more elastic manner. After taking the honey for a week, the Doctor said he could take violent exercise without any strain being felt.

Eucalyptus Honey, with its 612 parts, per thousand, of pure sugar, will take a leading place amongst nutriments; it will prove an important substitute for Cod Liver Oil, in cases of bronchitis, phthisis, scrofula, &c.; while, as a sedative to the heart, as a febrifuge, as an antiseptic and antiparasitic, it would appear to be second to no other product.

Its action upon the functions of the bronchial and pulmonary passages is to regulate them, and to reduce catarrhs; while on the heart it acts in a similar manner to digitalis.

Without going further into the uses to which Eucalyptus Honey may be put as a simple and enjoyable remedy, we may state that the uses of its active principles are: EUCALYPTOL, in intermittent fevers, post-scarlatinal nephritis, albuminaria coughs, and as a tonic, stimulant and antiseptic. EUCALYPTENE, the tonic bitter and amorphous principle of the Oil of Eucalyptus, used in malarial fevers. TERPENE, a powerful antiseptic, disinfectant and deodoriser, used in phthisis, dysentery, and to prevent intestinal infection. CYMOL, a stomachic and carminative.

The following cases are on record of the therapeutical value of Eucalyptus Honey (see *Progrès Medical*, of Paris, *p.* 320, 1887):—

CASE 1.—Man, 44 years of age, living in a moist climate, suffering from bronchitis for five months, with intense dyspnœa, usual pulmonary symptoms, with muco-purulent expectoration, voice very hoarse, emaciation, cachexia and anorexia. Was placed upon three teaspoonsful of honey in warm milk, thrice daily. At the end of a week dyspnœa decreased, no expectoration, complexion and appetite good.

CASE 2.—Young woman, 21 years of age, from Besançon, advanced disease of the lungs, accompanied by nocturnal sweats, considerable wasting, fever, etc. Was placed upon 3 teaspoonsful of the Eucalyptus Honey, thrice daily, for two months, when she was found to have gained strength and weight, the bad symptoms having almost disappeared.

CASE 3.—Man, 62 years of age, with sub-acute bronchitis, two weeks old; a cure was completely effected in five days by placing him on eight teaspoonsful of the honey, in divided doses, daily.

CASE 4.—Girl, 7 years of age, distressing whooping cough, reduced from thirty attacks to six at the end of a week.

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* It ought to be tried for chilblains, cold hands and feet.

Case 5.—Actress suffering from severe and painful laryngeal catarrh, with reflex cough. Cured in a week.

Case 6.—Young woman, 19 years of age, suffering from severe typhoid fever, accompanied by delirium, with grave abdominal symptoms. She was placed upon two teaspoonsful of Eucalyptus Honey, in 125 grammes of warm water; in a few days the pulse was reduced from 140° to 80°, and the temperature from 106° to 102°. She rapidly improved, and was cured without relapses.

From F. L. D., Edinburgh.
(12149—31/8/88).

My brother, who is a medical man, has been using the honey for whooping cough with marked effect, and will continue to do so as the cases crop up.

From E. P., Edinburgh.
(12336—8/9/88).

I hear very favourable opinions about the curative properties of Eucalyptus Honey in whooping cough, for which it has been tried here with very good results.

From M. G., Dublin.
(14828—3/11/88).

I have derived great benefit from the Honey, though I cannot lose the bronchial tendency, and have become so susceptible that the least change in the weather or a draught gives me a fresh cold, yet it relieves me very much. I consider it a great restorative.

Eucalyptus Honey is designed to play an important part in the treatment of laryngeal, bronchial, pulmonary, cardiac and scrofulous affections; in malarial and typhoid fevers; in whooping cough and influenza; in diseases of the bladder and kidneys; and in catarrhs.

EUPHORBIA PILULIFERA.

Perhaps since the introduction of this drug no other product has met with so rapidly increasing a demand. Unfortunately the results of its action have not been sufficiently recorded to enable me to place many before the profession.

The fluid extract in half to one drachm doses, taken in hot or cold water after meals, has yielded beneficial and prompt results in asthma, bronchitis, and other diseases of the lungs and respiratory organs, enabling the patients, through its slightly narcotic properties, to obtain a rest and sleep.

Mr. David Read, of Lower Edmonton, writes me as follows, after his experience with *Euphorbia Pilulifera* in the case of his wife:—

My wife having for many years suffered from severe attacks of Bronchitis, which the doctors who had at various times attended her said was chronic and *incurable*. I was able through the kindness of a gentleman to give her some of your Euphorbia Pilulifera, and can only express my astonishment at the effects it has had on her. In two or three days from the time she commenced taking it she was greatly relieved, and before

finishing the bottle she appeared to be perfectly cured. She expresses her great gratitude at the result, and, in spite of the late heavy fogs, she has had no return of the complaint but is able to get her rest comfortably every night, a thing she had long been unable to do. I write this feeling that you ought to know of the case, as I am sure it ought to be widely known that there is such a remedy to be had.

Dr. ALLAN S. PAYNE, late Professor of the Theory and Practice of Medicine in the Southern Medical College of Atlanta, Georgia, U.S.A., reports as follows of his experience with *Euphorbia Pilulifera* :—

Peter I., carpenter by trade, aged 46, came to me in September, 1886, suffering with spasmodic asthma and bronchial irritation; complained of a sense of great weakness for want of breath; could not do any work at his trade; was always hale, hearty and strong, until during the war; was confined in camp on the banks of the Appomattox; ever since had been subject to these asthmatic attacks. He was weaker and considered this the worst attack he has ever had; had been longer unable to work than ever before. His complexion was sallow, skin dry and felt harsh to the hand, tongue coated with a thick whitish fur, urine scanty and high coloured. ℞ 5 grs. sulph. quinine, night and morning; gave him sub. mur. hydr., gr. x; ext. coly. comp., gr. x., pulvis ipecac., gr. i; ol. cajuput, gtt. ii; divide into two powders; take one at 3 p.m. and the other at bed-time; next morning teaspoonful Carlsbad salts in glass cold water; fluid ext. Eurphorbia Pilulifera, 30 to 50 drops. *Pro re nata.* He came to my office the day before yesterday, for me to prescribe for his wife and daughter. He says he is stronger and better than he has been since the war, and that the little black drops cured him.

I. P., farmer and fox hunter, has been subject to attacks of asthma since childhood, the attacks getting worse; is 27 years old; has tried a great many remedies without any permanent benefit; would be well and hearty if it were not for these attacks. ℞ 30 to 60 drops Euphorbia Pilulifera. *Pro re nata.* Reports to me as having experienced great relief; has not had the attack this winter, although he has fox-hunted as much as usual; thinks the black drops cured him.

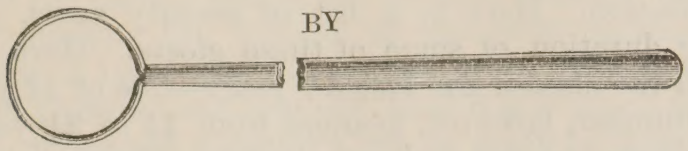
In order to disguise the taste of the fluid extract and to render it more easy to prescribe, an excellent cordial has been prepared that will commend itself to both the Profession and the Patients.

PYRODINE.

This is a new chemical, evidently a derivative from tar, which is said to be superior to Antipyrine, Antifebrine, and other anti-pyretics. Pyrodine, which is described as a powerful antipyretic, should only be given under medical observation; the maximum dose for children is from 2 to 4 grains, and for adults 8 to 12 grains. One dose only should be given in the 24 hours, and the drug discontinued after three days, as toxic effects are apt to follow if given in repeated doses. The composition or nature of Pyrodine is, I am told, not to be divulged.

ON THE TREATMENT OF GLEET

BY



ANTROPHORS, or COATED SPRING BOUGIES.

THE Coated Spring Bougie is almost explained by its name. It consists of a spiral spring of 5 to 6 inches in length, terminating at one end in a large ring. It is coated with various medicaments; the whorls of the spring forming salient rims for the attachment of the substance used. The pliancy of the Bougie is so great, that it can be knotted like a Jacques catheter, and it is sufficiently stiff, withal, to permit of its introduction into the urethra with the greatest ease. The spring cannot be broken, nor can the ring at the end become detached. The whorls are, moreover, so well covered that the instrument cannot wound or injure the urethra in the slightest. It possesses all the essentials of a perfect Medicated Bougie.

Wishing to ascertain its real value, we submitted it to one of the Surgeons at St. Peter's Hospital for Urinary Diseases, who informed us that it would, with certain improvements, be the *ne plus ultra* of Medicated Bougies, and pointed out the use it would prove not only in the cure of gleet, but also in general surgery; for instance, in the treatment of those intricate sinuses often met with in the neck, back, and pelvis, and in the treatment of diseases of bones, &c. The method was employed in nearly 80 cases of chronic gleet, and the experience obtained with it was detailed in the course of a clinical lecture on Therapeutical Innovations at St. Peter's Hospital, on March 21st, of which we were kindly permitted to take the following shorthand notes:—

"This Coated Spring Bougie which you have just seen me use in this case of gleet, has been liberally supplied me during the last few months by Messrs. Christy & Co. It is the best I have ever met with. Up to this date we have been forced to use Cacao Butter Bougies. These latter are, however, made either too stiff to enter the curve of the deep urethra, or too soft to penetrate as far as that section of the canal. They also melt too rapidly. Now the essential points of a perfect Medicated Bougie are these—

1. It should be long enough to reach the deep urethra.
2. It should be pliant enough to adapt itself to the curves of the canal, and stiff enough to allow of its easy and ready introduction.
3. The material should melt evenly, but not too rapidly.

These three essentials are afforded in the Spring Bougie. You will doubtless agree with me that few cases are more troublesome or

wearisome to the practitioner than are obstinate cases of gleet. In the generality, a gonorrhœa slides into the gleet stage, and the gleet is curable, but a certain residue of cases remain, in which no form of treatment seems effective. Here is a list of seventy cases, and you will notice the long duration of some of these gleets. Here, for instance, are five in which the disease has lasted 7 years—one of 14 years' standing—the greater number, however, average from $1\frac{1}{2}$ to $2\frac{1}{2}$ years' duration. All these cases were treated indiscriminately (after stricture had been eliminated) by means of the Spring Bougie, and the greater proportion reported themselves cured or relieved—the latter being subsequently cured by injections, for the Bougie is too expensive to continue for long in out-patient practice. A small proportion remained unaffected or were made worse by the Bougie. To these cases I shall refer immediately. The results with some of the cured cases were gratifying, in a few cases, startling. Here is one of 7 years, in which four Spring Bougies cured the gleet. Here is another of $3\frac{1}{2}$ years' standing, who reports himself perfectly free, after using four, and here one of seven months, which three have cured. Some cases take as many as six, others ten, before they are well. It is curious to note how differently the urethræ are affected by the Bougie. Some suffer much pain on the first introduction, others scarcely at all. I have used different varieties of medicaments, such as Iodoform or Zinc Sulphate, but the one which afforded the best result is the 5% Thallin. Now to return to the more important and valuable class in which a Thallin Bougie did no good, or even made the gleet worse. The former result was, in one instance, brought about by using a very short Bougie, from which I concluded that the deeper urethra was the location of the disease, and this proved correct, for on giving the patient the longer form the gleet disappeared. In some, the gleet disappeared only to relapse, a circumstance which not infrequently happens with a change of urethral injection in old cases of gleet. A few were made worse. Now, I believe, the Incandescent-Lamp-Urethroscope clears up the reason for these varying results. Much has been written upon granular urethritis, and Oberländer has tabulated quite a variety of diseases which may be seen affecting the mucous membrane of the urethra. I must acknowledge that real granular patchy conditions do exist, for I have met with them, and demonstrated them on more than one occasion to the professional friends who chanced to be present whilst I was examining the urethra with the endoscope. But they are *rare*; the greater number of gleety urethræ seem merely "sweaty urethræ." The mucous membrane is mostly moist, and the vessels are abnormally large and injected. The surface looks as if it required *tone*. It is this class which is benefitted by the Bougie, and as it is generally in the deeper part of the spongy urethra that this congested and sweaty condition is more marked, it is therefore necessary to pass the Bougie well down into the deeper part of the canal to obtain a good result. I believe it is the granular urethræ that are aggravated by the Bougie. These require a different line of treatment for their cure. One remark, only, and I finish with the Spring Bougie. If you want an empirical method of treating chronic gleet, this Bougie will serve you well—I may say best of any yet introduced. I use it now routinely. I first eliminate stricture and prostatorrhœa. I begin with one Bougie in out-patient practice which I pass myself, after lightly washing the surface with water. The patient stands or lies down for 10 or 20 minutes, by which time the Thallin has become melted off the spring. The spring is now pulled out and thrown away—a pledget of cotton wool is given to the patient to arrest the sticky substance oozing from the meatus, and he is instructed to use a Condy or other injection after 24 hours' time. In a week's time I introduce

another Bougie, with the same subsequent treatment. By this means I have been able to rid my work of many old patients, to our mutual satisfaction. In private practice the cure is quicker, for expense is but little object and the patient passes the Bougies himself, using at first two a day, and diminishing the number as the gleet decreases. For very sensitive patients I have had the surface of the Bougie covered with a 10 % solution of Cocaine, but I do not think it is of much advantage ; but the application, if deemed necessary, can be made by means of a solution by the medical man, before introducing the Bougie. I have tried these Bougies in acute and sub-acute gonorrhœa, but I am not satisfied as to that abortive or foreshortening power which others ascribe to them. Nor have I found them of much use in neuralgic urethræ. I have gradually restricted their use to chronic gleet."

Dr. B. KRAUS, in the "Allgemeine Wiener Medizinische Zeitung," says—

"In the treatment of gonorrhœa by means of the Coated Spring Bougies, the drug can be easily and safely carried to the farthest part of the urethra. The Coated Spring Bougie, by reason of its pliability, adheres to the diseased mucous membrane, the medicated mass slowly dissolves, and by its uninterrupted and immediate contact with the diseased mucous membrane, becomes absorbed."

DR. A. BESSARD, of Dallas, Texas, in an able article in *The Therapeutic Gazette*, p. 155, 1888, on the Antrophor, which he designates as a new instrument for the treatment of diseases of the male urethra, the uterine canal, the naso-pharyngeal space, the lachrymal duct, of fistula, and gunshot or stab wounds, gives his results, from which we extract the following particulars :—

I have found Dr. Rose's experience confirmed, and am convinced that the Thallin Antrophor is a most excellent remedy in acute and subacute gonorrhœa, surpassing all others which I ever became acquainted with. There is certainly no other method of treatment so free from irritation. The Antrophor is milder, less irritating, less unpleasant, and at the same time more effective than injections. The uterine canal, the female urethra, the naso-pharnygeal space, the lachrymal duct, require antrophors of only seven centimetres length. Fistulæ and wounds according to individual cases. A very few Antrophors, charged with a two per cent. Nitrate of Silver mass, sometimes one only being required, will promptly heal such ulcers and granulations.

Extract from the *Therapeutische Monatshrift*, February, 1888, by Dr. NACHTIGAL.

For the purpose of comparing the action of different Bougies, I select only ten marked cases from the list of my gonorrhœa patients, which have been treated with Bougies, and with the results as follows :—

	My Early Bougies.	Thallin Bougies.	Thallin Spring Bougies.
Number of applications ...	50	40	20
„ per day	3	3	2
Duration of illness	4 weeks	3—4 weeks	2 weeks
Failures	1	—	—

This favorable result is partly due to the specific action of the Thallin Sulphate upon the gonococcus, partly upon the safe manipulation of the Spring Bougie, which being soft and pliable, can be introduced as far as desired without ever breaking, and then to exercise a certain amount of pressure upon the *curves* of the urethra (even as far as the Bladder itself). It so acts that the folds of the mucous membrane become perfectly plain and smooth, and the remedy gets into immediate contact with the brood of the coccus.

The adoption of Spring Bougies in fistula, sinnuous canals in surgery, as well as their application in cases of cervical canal, in gynæcology and analogous cases, will give favorable results, and will cause the instrument to assume a permanent position as a reliable therapeutic agent.

These Bougies or Antrophors have since their introduction become very popular with the profession, who find in them a long-felt want for the cleanly, simple and easy treatment of deep-seated lesions of the urethra and other parts.

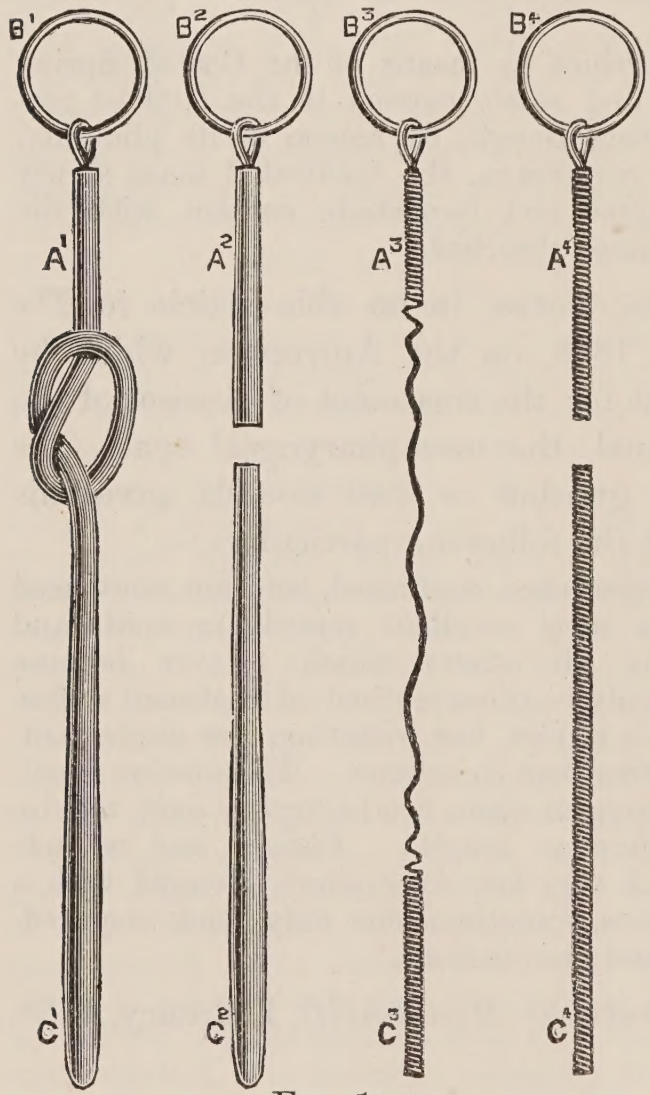


Fig. 1.

The Urethral Bougie.

In the *British Medical Journal* (Oct. 20th, 1888, p. 886) a full description of these valuable instruments was given, showing the construction, and describing the uses, and I reproduce here the blocks lent to the Journal for that purpose.

Fig. 1 shows the wire spring (c4) ready to receive the coating of shellac, which remains on the spring after the remedy has dissolved off; (c3) represents the wire spring pulled out, showing that any extra strain on the wire would cause it to elongate rather than break; (c2) represents a Bougie coated and ready for use, while (c1) shews the perfect flexibility of the instrument when coated, and that its pliability enables it to be passed through the greatest curves. The ring is useful to prevent the instrument from slipping into the bladder or from getting out of the surgeon's control. These Bougies, which are for the urethra, are made of any length, from 6 to 10 inches, the size

generally found most convenient for all purposes being 7 inches. Those of shorter lengths are used for fistulæ, diseases of the ear and nose, rectal complaints, and for gunshot wounds, &c.

One of the surgeons of St. Peter's Hospital, who was much interested in these instruments, was kind enough to suggest a very important and valuable improvement for the better treatment of prostatic complaints. He found the ordinary urethral Bougie (7-inch) hardly long enough to reach the prostatic canal, and that it was unnecessary in the treatment of that canal to subject the whole tract to the influence of the drug. The result is shown in Fig. 2.

The Prostatic Bougie is made on the same principle as the urethral Antrophor, except that the whole of the medicated portion is limited to the end (C), which is about $1\frac{1}{2}$ inches in length; the shaft (A) is coated with gelatine to guard the membrane of the urethra during the use of the Bougie, which is of a total length of 8 to 9 inches. The bulbous end of this Bougie can be guided into the prostatic canal by means of the finger in the rectum. It can easily be seen how great is the advantage of this form of Bougie over the "Urethral" for diseases of the prostatic canal and deep-seated fistulæ, for, the treatment by its means is located with a degree of certainty not obtainable with any other instrument.

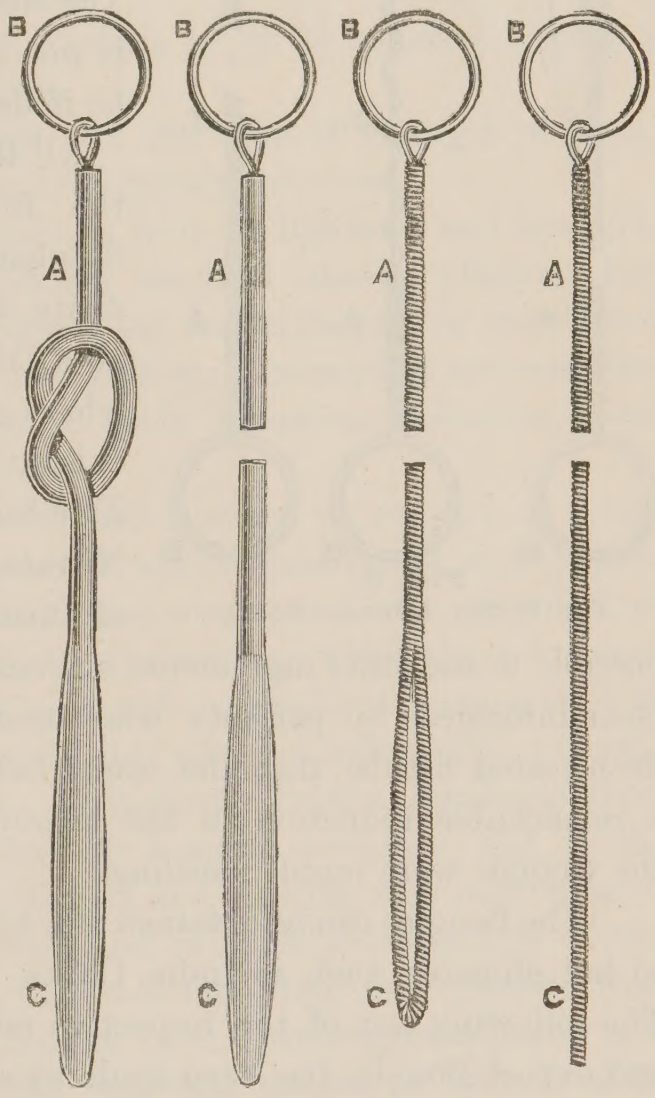


Fig. 2.
The Patent Prostatic Bougie.

Shortly after the above was discussed, Mr. A. G. R. Foulerton, M.R.C.S., suggested a form of Bougie which, in his opinion, would prove of great service for the treatment of diseases of the uterus and other canals. In this form of spring Bougie (Fig. 3), the object was similar to that which it was desirable to attain with the

Prostatic form, *i.e.*, a bulbous medicated mass at the end (C), by the means of which the treatment would be limited to a certain area; it was also found necessary to construct these Uterine Bougies so that they might be made to take any curve or curves necessary, and retain the form thus given to them. To arrive at this result a thin wire has been passed through the centre of the spring coil, as shewn (Fig 3.) The shaft (A) in the Uterine Bougie is not coated in any way, but may be if desired.*

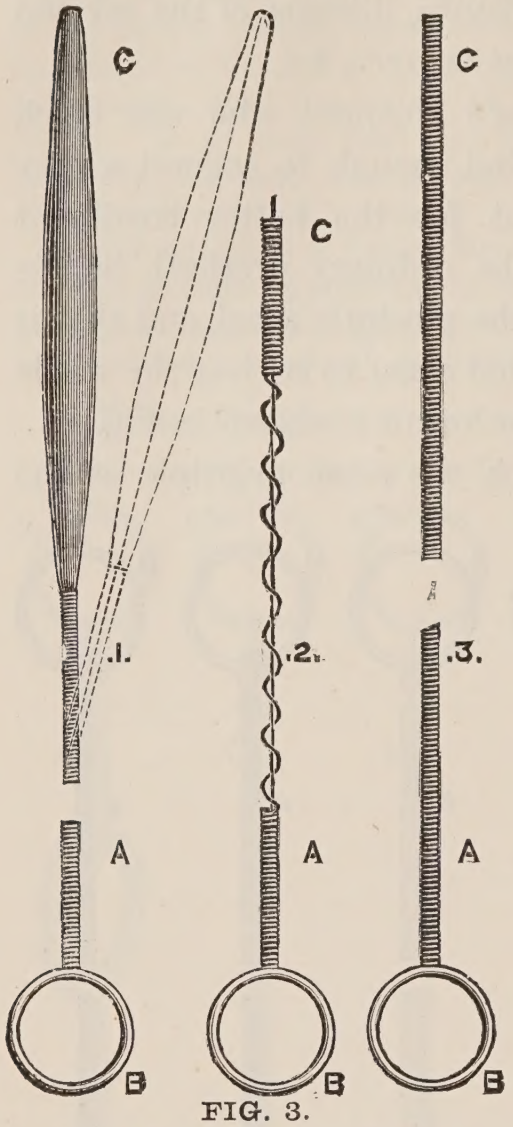


FIG. 3.
THE PATENT UTERINE BOUGIE.

All these Bougies are coated with the following remedies:—Thallin Sulphate, $2\frac{1}{2}\%$ or 5%; Thallin Sulphate, $2\frac{1}{2}\%$ and 5%, combined with 10% Cocaine, for use in those cases where great tenderness of the parts exists; Iodoform, 5%, 10%, and 20%; Zinc Sulphate and Tannic Acid, 5%; Nitrate of Silver, 2%; Sub-nitrate of Bismuth, 5%. It would also be possible to use other ingredients, such as Sozoiodol and Iodol. I have been informed by patients who used the Iodoform Bougies in deep-seated fistulæ, that the use of half-a-dozen Bougies produced a remarkable reduction in the amount of the discharge, and that the wounds were rapidly healing.

The Bougies can be obtained of a higher melting point for export to hot climates, such as India, China, the West Indies, Brazil, &c. The following test of the respective melting points of the ordinary and export Bougies has been made by a surgeon at my request:—

Ordinary Bougie took 3 minutes to melt altogether, while it took 10 minutes for *half* of the export one to melt.

This test establishes the fact of the suitability of the Bougies for export purposes, the only caution being to keep them in a dry place. I should be glad of any suggestions for widening the sphere of usefulness of this valuable instrument, which, from the simplicity and neatness of its construction, can easily be made to take any form.

*See Mr. FOULERTON'S note to the *Lancet*, December 8th, 1888, p. 1122, on a New Method of treatment for endo-metritis and endo-cervicitis by means of medicated bougies.

CHRISTIA.

For some years I have been working at a material (which I have called Christia) for replacing oiled silk, indiarubber or gutta-percha tissues, &c., for the purposes of surgical bandages, sheets and plasters. The material consists of a thin, soft, and flexible tissue, prepared by a patented process, and, as will be seen from the following figures, it has in weight and in resistance great advantages over such substances as those referred to above, which cause sweating of the parts, and often induce irritation of the skin not less difficult to deal with than the ailment itself :—

WEIGHT.—A bandage 11 feet long by $3\frac{3}{4}$ inches wide, ready for use, weighs ONE OUNCE.

RESISTANCE.—A piece of Christia 19 by $3\frac{1}{2}$ inches will bear a strain of 25 lbs. weight.

The stickiness of oil silk and the want of strength in gutta, to say nothing of the expense, are entirely overcome.

It will be seen that Christia is, from its lightness and strength, eminently suitable for bandages, surgical sheets, plasters, and waterproof linings or coverings. As an antiseptic or medicated bandage, owing to its power to absorb such antiseptics and remedies as carbolic, boracic and salicylic acids, potassium silicilate, iodol sozoiodol, iodine, &c., it is unique.

Christia will prove a useful introduction in surgery, as it can always be kept handy in accident wards, ambulances, and dispensaries; it is strong, and of a minimum weight and bulk. It will be of service in the treatment of ulcerated or sore legs, which are so frequent with out-patients. The bandages will be rendered porous, so as to avoid the ill effects noticed with oiled silk and indiarubber tissues.

I may at once say that Carbolized Christia Bandages have been submitted to several English hospital surgeons, and to the Army Surgeons in Germany, France, and Austria, who pronounce it to be one of the most important and valuable introductions of the period in surgical bandages, and resulting from the opinions thus gathered, several forms of Christia have been suggested, such as a combined bandage of Christia and lint soaked in boracic acid ; plasters and surgical sheets for operations.

I hope shortly to be in a position to provide a series of samples for the London and Provincial Hospitals, as well as for any surgeons who may desire to test this new advance in bandages and sheets.

With regard to the name Christia, I would explain that it refers exclusively to the material, as far as it is made according to the patent, and that it will be described according as it is saturated, as Carbolized Christia, Salicylic Christia bandage, sheet or plaster.

CHAULMUGRA.

Great strides have been made with Chaulmugra Oil in this country in regard to its application to open sores, wounds, sprains, and rheumatic complaints. It is now being extensively used in veterinary cases in some of the largest stables throughout the country, being especially useful in sores resulting from friction of the harness or from bruises, to which horses travelling in the Metropolis are all more or less subject to.

Following upon the results obtained on horses, the oil has been successfully introduced as an ointment to be applied to open sores occurring on cattle, dogs, cats, and other animals. It would seem to act by causing the wound to heal with great rapidity and cleanliness; furthermore, its use appears to keep off the flies that cause so much worry and damage.

The properties of Chaulmugra oil applied externally in bruises, sprains and stiffness, are well known to sportsmen and cyclists, while sufferers from rheumatism and stiffness of the joints attendant upon it, derive undoubted benefit from a good rubbing with it.

I have recently received from Dr. J. Hutchison, of Glasgow, a few notes of cases under his care, in which a compound liniment of Chaulmugra and capsicum proved very successful; the details are the following, viz.:

M. H., age 34, **Chronic Rheumatism,** 1 WEEK UNDER OBSERVATION.—Patient had suffered for some months past, and had had several liniments prescribed, but from none had she the relief she obtained from capsicum lin. and Chaulmugra Oil in equal parts.

Jn. F., age 22, **Straining of muscles from bicycle accident,** 3 WEEKS UNDER OBSERVATION.—Muscles of thigh principally affected. Chaulmugra and menthol dissolved in oleic acid gave great relief.

Jane T., age 30, **Lumbago,** 1 MONTH UNDER OBSERVATION.—Pain not severe, but patient complained much of "weak back." Chaulmugra and capsicum gave great relief.

Jas. A., age 21, **Sprain of ankle,** 3 WEEKS UNDER OBSERVATION.—After swelling had moderated a liniment of Chaulmugra oil and menthol dissolved in oleic acid gave great relief.

M. D., age 40, **Sciatica,** 2 WEEKS UNDER OBSERVATION.—While pain was not severe, it was almost constant, and there were marked exacerbations in wintry weather, Chaulmugra Oil and capsicum always gave relief.

D. B., age 54, **Chronic Rheumatism,** 3 MONTHS UNDER OBSERVATION.—Patient contracted disease many years ago. Principal seats of trouble are ankles and hips. Suffers most in cold and wintry weather. Medicines were given internally, but patient frequently remarked benefit he derived from a liniment of Chaulmugra Oil and lin. capsici, equal parts.

S. T., age 16, **Muscular Rheumatism,** 4 WEEKS UNDER OBSERVATION.—Patient is a growing lad, and not unfrequently suffers from severe rheumatic pains in calves of legs, which he says is always relieved by a combination of Chaulmugra Oil and menthol dissolved in oleic acid.

Mrs. McF., age 32, **Chronic Rheumatism,** 2 WEEKS OBSERVATION.—Shoulder joints are the seat of the disease in this case, and relief can always be had from Chaulmugra Oil and liniment capsici, equal parts of each.

Mary F., age 20, **Chronic Rheumatism**, 3 WEEKS UNDER OBSERVATION.—Ankle joints favourite seat. Same prescription, Chaulmugra Oil and lin. capsici; same result, relief after each application.

T. W., age 40, **Lumbago**, 2 WEEKS UNDER OBSERVATION.—Many remedies tried, morphia, &c., but patient remarked most relief after Chaulmugra and lin. capsici.

With regard to the powerfully alterative action of the oil, administered internally in doses commencing with 3 minim perles, and gradually increasing the dose until the patient feels he is taking as much as he can support, there is no need to recall the results obtained by medical men both in this country and abroad in severe cases of rheumatism, consumption, skin diseases, especially leprosy and psoriasis.

Thanks to the demand now ruling for the oil, the pressers in India have been enabled to take steps to ship it in ton lots at about one-third the price which it used to cost.

The English Government have adopted it, and use it in the cavalry and artillery regiments. The German Government have not yet decided to make trials, but it is largely used by the officers. If the students would use it for the wounds on the face caused by sword cuts they would not be so marked.

One great detriment to its easy application has always been its consistency, which, in our climate, rendered it necessary to heat the oil so as to liquify it. This has now been overcome by mixing it with Agnine, a wool fat, with which Chaulmugra Oil combines well. This combination presents the appearance of a brown ointment, and by its means the beneficial action of the oil is more speedily obtained. The Agnine, which is readily aborbed into the skin, carries with it the Chaulmugra, and after a few seconds' rubbing not a trace of the ointment remains on the skin. Those who have had experience with the oil when used in a pure state know how slowly it absorbs, and the uncomfortable greasiness and ungenial odour that remain. These defects are entirely avoided by the combination I have referred to.

Another very excellent combination consists of mixing Menthol and other ingredients with Chaulmugra Oil, which then remains fluid, for promptly relieving neuralgic, gouty and rheumatic pains, sciatica, and other aches of the nerves and muscles. To distinguish this from other combinations obtained with Chaulmugra Oil it has gone under the designation of Mistole, and as such it forms one of the most popular and efficacious remedies at present to be found in many a surgery and dispensary.

SOZOIODOL.

Sozoiodol is a compound of such well-known antiseptics as iodine, carbolic acid, and sulphur, and is chemically described under the name Di-iodoparaphenolsulphonic acid. It is destined to act as an odourless substitute for iodoform. Mr. H. Trommsdorff, of Erfurt, the introducer, states that it is most conveniently used in the form of the acid salts, because Sozoiodol itself is comparatively soluble. He gives the following as the characteristics of the salts, viz.:

Sodium-Sozoiodol occurs in colourless tubular crystals, which dissolve easily in water or glycerine at an ordinary temperature, to the extent of about 1 in 12. The glycerine solution remains quite unchanged when exposed to sunlight, but the aqueous solution slowly alters its colour on exposure.

Potassium-Sozoiodol dissolves only to a slight extent in water and glycerine, these fluids dissolving only about a fiftieth part of their weight of the salt. This property makes the Potassium salt preferable to the Sodium salt in the treatment of cases which require the application of dusting powders, &c., because of the greater duration of their efficacy; the effects of both salts are, however, the same. Sozoiodol has been applied not only in the solution, but in combination with Talc, Lanolin, Sugar of Milk, and with much success, in the pure state. It is perfectly odourless, and experience has shown that it is without any injurious after-effects whatever, so that it seems to be entitled to prominent rank among antiseptics.

Its chemical nature permits of combinations with almost every metal, opening thus a vast field for therapeutic treatment, and enabling the physician to combine the action of certain metallic bodies with that of the antiseptic substance proper, such as Aluminium, Magnesium, Lead and Zinc, which compounds are easily soluble. Also the Ammonium, Barium, Mercury and Silver Salts, which are difficultly soluble.

With regard to the properties of Sozoiodol, Dr. M. A. Fritsche, of Berlin, specialist for diseases of the nose, mouth and throat, who has made trials with the Sodium, Potassium, Zinc and Mercury Salts of Sozoiodol, found these new compounds, especially the two first, especially suited to the treatment of all catarrhs of the respiratory organs (nose, mouth and larynx), which were associated with a tendency to drying up of the secretion, or in which the secretion was solid and viscous; also in dry or atrophic catarrh of the nose in its various forms, Ozœna (with or without sores), Laryngitis sicca, and analogous diseases. In these cases the secretion was liquefied, and the bad odour existing with Ozœna disappeared more or less under the use of the Sozoiodol.

He states that the sores granulated well, and that the mucous membranes became more healthy. Its action in tuberculous ulcers

in the mouth and larynx, inveterate cases of Ozœna, secondary or tertiary forms of syphilis of the nose and larynx, would appear to be that it induce a rapid and healthy tendency to heal.

Dr. Oscar Lassar, of Berlin, states of the Potassium Salt that it can be applied either pure or in mixture, just like Iodoform, and that in dusting powders or pastes (5% to 10%) with Zinc, Starch, Vaseline or Lanolin, it causes the irritated and inflamed skin to peel mildly without any reaction, and exercises an apparently beneficial influence on wounds, eczema (recent or inveterate), herpes squamosus, herpes tonsurans, impetigo and ulcers. That the paste (10%) is used with success against tetters of the beard, and seems to be valuable in the treatment of mycoses proper.

Dressings with Sozoiodol-Talc for sores and pastes (1—10%) against inflammations of the skin, have proved so successful that, in many respects, Sozoiodol can certainly compete with Salicylic acid, while, unlike that substance, it may be applied in a concentrated state without creating artificial inflammation.

In this country the salts of Sozoiodol have created some amount of interest, and I am indebted to Mr. Boehm, Mr. Trommsdorff's agent, for a perusal of the following reports :—

From Dr. R. P., of Cardiff.

My trials in practice of the Salts of Sozoiodol have been too limited to pronounce any definite opinion of their merits ; but so far as my experience extends the results are satisfactory.

From Dr. F. H. S. M., of Queenstown.

In reply to yours of the 25th ult. in reference to the specimens of Sozoiodol Salts received from you, I beg to inform you that I have used the Soda Salt as a topical application to chancres, discharging sores, and indolent ulcers, and found the effect most beneficial. It is free from the objectionable smell of Iodoform, and the sores heal kindly under the application. I may add, it also appears to have a decided cleansing power and effect.

From Dr. H. W. P., of Liverpool.

Thus far I have only used your compound of Sozoiodol and Mercury. I found it an effective and pleasant substitute for Iodoform in healing soft chancres, and also wounds made by incision.

From Dr. P. C. S., of Dublin.

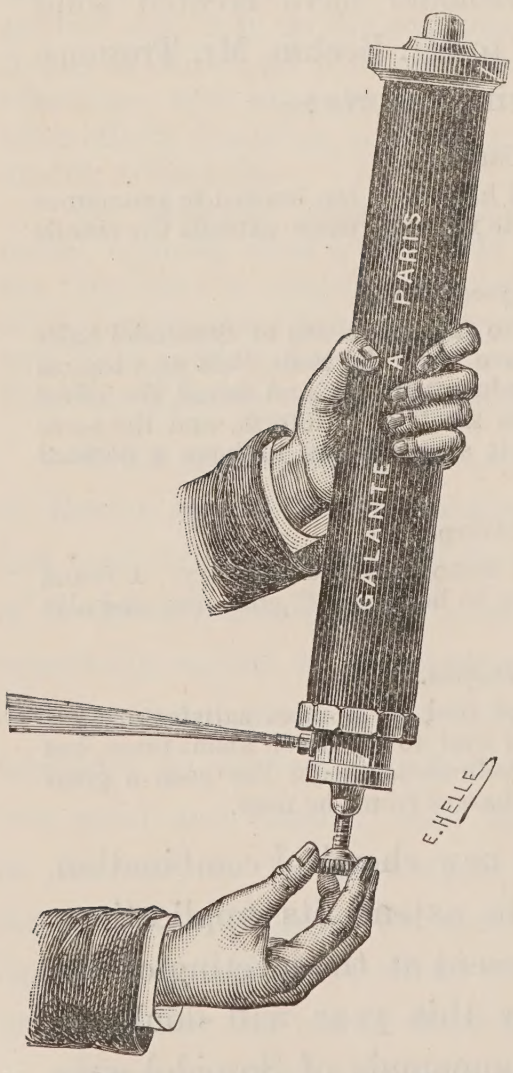
I have tried your Sozoiodol preparations, and find them most satisfactory. I have not had time to give your dressings sufficient trial to say much about them, but so far they seem to be most satisfactory. The Sodium-Sozoiodol has been a great success in several cases of ozœna and purulent discharges from the nose.

Wool and lint, saturated with this new chemical combination, have been recently introduced so as to extend its applications. Members of the Profession who were present at the meeting of the British Medical Association in Glasgow this year will doubtless recollect that samples of the various compounds of Sozoidol were shown along with my own drugs.

CHLORIDE OF METHYL.

Chloride of Methyl is described by Dr. Dujardin-Beaumetz, as being, at a normal temperature, a colourless gas with a characteristic odour. It is also known as methylhydrochloric ether, can be liquefied by pressure or by cold, the latter being the agency usually employed. As a liquid, Chloride of Methyl is colourless, boils at a temperature of 23° cent., and evaporates at once when in contact with the surrounding air, and through this molecular change produces a great reduction in the degree of temperature which may even exceed 40° centigrade.

The great difficulty that has always stood in the way of the more general use of the liquid as a refrigerator in therapeutics was, that owing to its rapid change into gas by contact with the air, it was necessary for it to be enclosed in stoutly-made containers. At first a syphon such as is in use for mineral waters was tried, but an increase in the temperature caused the liquid to evaporate into gas and thus to burst the vessel. Thanks to the efforts of Messrs. H. Galante & fils, of Paris, there is every prospect that Chloride of Methyl will come into more general use in this country, seeing that this firm has arrived at a decision to let out on hire their special tubes containing the liquid Chloride of Methyl, and by the means of which a perfect spray may be safely and effectively obtained. These tubes, as soon as empty, are exchanged by Messrs. Galante for new ones at a very small cost.



The accompanying illustration shews Messrs. Galante's instrument, and its mode of working. This apparatus consists of a metallic tube enclosed in indiarubber, having at its base a small aperture, through which the Chloride of Methyl escapes in the form of spray. By a most ingenious arrangement the jet or spray can be started, stopped, or regulated with great facility, thus enabling the surgeon to keep a

thorough control over it. The parts to be treated by the Chloride of Methyl should be sprayed with it slantingly in such a manner that the spray merely glances over the skin. It is necessary to state that the spray should not be applied to one part of the skin for more than five seconds at a time, otherwise it will produce mortification, consisting either of a vesication or of sloughing.

The skin, as soon as it is touched by the Chloride of Methyl spray, becomes congealed, pale, and hard, and the patient feels a burning sensation resulting from the intense cold produced. When the application of the remedy has been of short duration the only change in the appearance of the skin is that it first becomes reddish and then brown, the latter colour remaining for several days. When the skin is covered with hair, this should be shaven before applying the spray.

The therapeutical application of the Chloride of Methyl spray is indicated in cases of obstinate neuralgia and sciatica; in operations it can be safely used as a local anæsthetic.

At the meeting of the *Société Medicale des Hôpitaux*, held on January 9th, 1888, in Paris, Desnois related the results he obtained with the Chloride of Methyl spray in three cases. The first was an obstinate one of sciatica, which had resisted all treatment for some 14 months. The spray was applied to the sciatic nerve for about one minute, producing, after the freezing effect on the skin had disappeared, a certain amount of erythema, and, in places, blistering. A second application entirely cured the patient. The second case was that of a woman suffering from a severe attack of sciatica; two applications at a few days' interval cured her, and the same result was obtained in the third case of sciatica.

In the discussion that took place at that meeting, the fact was elicited that though in most cases the Chloride was successful in removing the severe pain attending sciatica, neuralgia, &c., yet in some cases its use was not followed by any marked improvement.

I was fortunate enough to induce Messrs. Galante to send me a few instruments to test its properties in this country, and although I am not in a position to quote actual reports of its use, still I have been informed that it has given in most of the cases in which it has been tried, ample evidence of its power to relieve pain of any description, and to be of service in minor operations in our London hospitals.

STROPHANTHUS.

Since the publication of No. 10 of this series much has been attempted in this country and on the Continent towards elucidating the obscurity which exists as to the botany of this important plant. The result of the work done does not leave us in any greater certainty of the correct botanical definition of the various species than before. By far the most praiseworthy and earnest effort made is that of Dr. R. Blondel, of the Academy of Medicine in Paris, who in the *Journal de Thérapeutique*, published a clear and concise microscopical description of the construction of the many varieties of Strophanthus, which were to be found both in the hands of merchants, of Prof. Oliver, of the Herbarium, Kew (who kindly gave him the opportunity of examining his valuable collection), and in other museums. Dr. Blondel, at my house in Sydenham, was able to study closely not only the herbarium specimens received by me from all parts of the world, but also the living plants, and after classifying the different varieties according to their characteristics and the locality from which they were imported, he is of opinion that the varieties known as the Kombè, the Woolly of Zambesi, &c., are merely deviations from the plant known as *Strophanthus hispidus*, which is fully characterised in No. 10, and this opinion would appear to be confirmed in the similarity existing in the therapeutical results, as tested in this country by many medical men.

I sent a short time since to Prof. Husemann, of Göttingen, who has made a close study of the physiological effects of *Strophanthus Kombè*, some seeds received by me from the West Coast of Africa, and which have been classified as *S. minor* and *S. hispidus*. The Professor, in his report on these seeds, states that he found that the *S. minor* seed yielded 10 per cent., and the *S. hispidus* seed 12½ per cent. of extractive matter, the former being of a brownish, and the latter of a greenish colour, a difference probably due to the amount of chlorophyll. On testing these extracts comparatively with Strophanthus of the Kombè District, as to their physiological action, he found that all three produced symptoms identically the same, though in varying degree, the *S. minor* being the weakest. I had first intended in this issue to publish with full

illustrations all that had been done up to date in the matter of the botany and microscopy of the different varieties of the Strophanthus, but seeing that new matter is brought to light every week concerning the botany, I have thought it advisable to delay any further publication until a definite classification, that may not be reversed immediately, has been arrived at. When this is done, it is my intention to publish the information in a book form.*

Some interesting results have been obtained in regard to the active principle of this seed, and until recently Strophanthin, as this principle has been called, was not thought to be obtainable in a crystalline form. Whether this was due to the fact that the tests laid down by Hardy and Gallois had been too strictly adhered to, or that the subject had not received the amount of study and care it should, I am not in a position to say.

Recently, however, Mr. Arnaud, chief of the laboratory of Prof. Chevreuil, at the Museum of Natural History in Paris, at my suggestion made a careful study of the *S. Kombè* and the *S. hispidus*, from the first of which he isolated a crystalline body, thus setting at rest the question of the existence of such a body in the seeds.

With regard to the therapeutical results obtained, they continue as good as ever, and the Medical Profession, after a thorough trial with the tincture, have been able to appoint to it, as a remedy, a leading place in certain irregularities in the heart, as a diuretic, and in typhoids.

I recollect hearing Dr. Quinlan, at the meeting of the British Medical Association, held in Dublin, 1886, relating the results of many cases of typhoid fever successfully treated with Strophanthus tincture, and since then I have heard from several parts of India that typhoid and malarial fevers are being satisfactorily diminished. Dr. Germain Sée lately spoke of his experiments with Strophanthin in diseases of the heart, and in the discussion that took place other medical men advocated strongly the use of preparations made from seeds of Strophanthus of other varieties than those of the *Strophanthus* Kombè of commerce.

In the *Annus Medicus*, 1888, of the *Lancet*, Strophanthus is stated to have been used largely, but appears to be of value mainly as an alternative to Digitalis, which is still preferred.

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* See Page 2 of cover, "Important Notice."

PRODUCE RECEIVED FOR EXAMINATION.

Since the publication of No. 10 I have received a great number of specimens of colonial produce, but I am only able in this issue to publish the following reports, owing to want of space. I take this opportunity of thanking my friends and correspondents for much valuable assistance given in carrying out the work of examining new produce.

From South Africa.

(2111—1/2/88).

Silver Leaf.—[Can you tell us anything about this leaf?]—These are well known here, and are used mostly by the French for decoration and for ornamenting hats, &c.

From West Africa.

(1387—17/1/88).

No. 1.—[Supposed to be Cinchona. Similarly used to that of Peruvian Bark.]

No. 2.—[Used as a tonic in the same way as Cascarilla.]

Both are bitter barks, but their origin cannot be determined from specimens sent.

From West Africa.

(4656—14/1/87).

Cinchona Seed.—[Please state value and also of the piece of bark sent with the seed; both are from the same tree.]—Neither bark nor seed belong to Cinchona, but to the Ceara rubber tree.

From Grenada.

(6518—7/10/87).

Zecark, or Fat Pork.—[Used as a medicine by the natives. Can you say if of any value?]—Not known to me.

From Java.

(4660—9/8/87).

Mandjel.—[Said to contain a red dye; please value and report.]

Tjang Koedoe.—[Contains a red dye, and an article of considerable sale in Java.]—This, I believe, is also known as Bangkoedoe, the botanical name being *Morinda umbellata*.

From West Africa.

(3204—29/6/87).

Garbi.—[Do you know these nuts, said to be used in medicine? The contents are taken out, and the shells used by the natives as snuff boxes.]—They belong to a species of Mucuna.

From Ceylon.

(699—23/4/87).

Nux Vomica Dried Pulp.—[Contains Strychnine.]—Mr. T. Whiffen has been kind enough to report upon this sample as follows:—"I have examined the pulp, and find that it contains both Strychnine and Brucine in small proportions. The result of the test has given—pure Strychine alkaloid, 0.32, and total alkaloid, 0.47 per cent; 94% of the pulp is soluble in water, and from the structure of the insoluble portion I am of opinion that it has not been prepared from fully developed seed. This preparation would find no sale for the manufacture of Strychine."

Randia Dumetorum.—[An emetic, used as a substitute for Ipecacuanha.]—Not enough sent for experiments.

Ipomea Turpethum.—[A purgative, and a good substitute for Jalap.]—Not enough sent for experiments.

Aristolochia Indica.—[A bitter aromatic root, much used in the treatment of snake bite, and may be useful in atonic dyspepsia.]—Not enough sent for experiments.

Ornamental Mat.—[Made from the fibres of the *Sanseviera Zeylanica*. Is there a market for it?]—A very pretty mat, for which a market could be procured.

From U.S. Columbia.

(2897—23/6/87).

Gualanday.—[The botanical name is *Jacaranda Mimosifolia*, and the plant is very much used here for syphilitic diseases, and surprising results are obtained with it.]—This variety of *Jacaranda* has similar properties to those of *J. Lancifoliata*, but cannot in any way be thought to be surprising in its results as compared to other European drugs.

From West Africa.

(2968—23/6/87).

Amomum.—[Please state value, if any, of *Amomum Granum Paradisi.*]

Mucuna Pruriens.—[Used to prepare *Lanugo Silignal Hirsutæ.*]

Pepper.—[So called by the natives.]—This is the Malaguetta pepper; it is not an article of commerce here.

A.—[Our agent reports that it yields the same quantity of gum as the *Acacia Nilotica.*]—Value depends on appearance.

B.—[Called by the natives Opujeke, and is probably the *Cassia Fistula;* the pods of some are 2 feet 8 inches long.]—This is a well-known article of commerce.

C. [Called by the natives Osioso (*Ceratonia Siligna*); used as a medicine against children's fits and certain urinary diseases.]

D. Gambia Pods, or Acacia Nilotica.—[Used for tanning and coloring leather.]

E.—[Seeds of a fibre-yielding plant.]

From Belgium.

(2948—25/6/87).

Cayota.—[Just received from Mexico. Its odour reminds me of Russia leather or birch oil, and in some places the bark comes off as in the *Betula Alba.* Might it not be a *Betula* or an *Alnus*? The Mexicans use it for tanning.]—Cannot determine it.

From West Africa.

(3062—26/6/87).

Xylopia Æthiopica.—[The bark is used for dyeing; has it any value?]—Prof. J. Bernardin, of Melles, writes concerning this:—"You will find *Xylopia* or *Habzelia Æthiopica* mentioned in *Guib.* III. 7, 86, 6th Ed., by *G. Planchon.* It is called *Cabela* in Angola; the pods are used as condiments, and are also called Congo Pepper and *Jindungo n'congo.* They are stomachic and carminative. Several *Xylopia* exist in Brazil, and are also used there as condiments. I do not find any mention of its wood or bark for dyeing or tanning."

From Holland.

(1282—9/5/87).

Snakebite Cure.—[I send you samples of the remedy against snake bites, as used in Surinam. The composition is a secret, and is sold by a negro.]

Strophanthus.—[I send a sample of Strophanthus from Java, probably the *S. Aurantiacus*, which may interest you.]

From India.

(1016—2/3/87).

Calo Fibre.—[Said to be the strongest fibre India ever produced; too valuable for ordinary cordage.]—This is the fibre of the Mudar tree (*Calotropis Gigantea*), upon which notes are given in "New Commercial Plants" No. 6, pp. 11 & 12.

From Liverpool.

(1107—3/5/87).

Bastard Croton Beans.—[Can be shipped regularly; what is the value?]—These are the beans of the *Jatropha curcas*, for which there is no regular market, except in Portugal, where the oil is expressed for manufacturing a special kind of soap. Some parcels we know of have sold in this country at from 12s. to 30s. per cwt., but there is no market to be relied on.

From U.S. Columbia, South America.

(8940—18/3/87).

Yerba Mora. No. 1.

Rhubarb, No. 2.

Altamisa, No. 3.

Lamino, No. 4.—[Supposed to be a powerful alterative; used by the natives in tertiary syphilis.]

Botoncillo, No. 5.—[Said to be a cure for leprosy.]

Zepa de Caballo, No. 6.—[Used in diseases of the liver.]—This is the *Xanthium Spinosum*, used in diseases of the liver. It is poisonous to cattle and other stock.

Oregano de Pena, No. 7.—[An aromatic herb].

Quirarte, No. 8.—[Said to be used as a cure for erysipelas.]

Trailecillo, No. 9.—[A strong purgative.]

Raiz de Cametia, No. 10.—[Supposed to be an antidote for Strychnia.]

Of all these the samples were too small to enable any trials to be made.

From Central America.

(848—27/4/87).

Ramie.—[Please state report and valuation; also how much more would be obtained if sample were bleached, and best mode of bleaching. Would you suggest any other form in which it would be of more use or value.]

From India.

(443—27/12/87).

Coca, No. 1.—[Leaves collected from 2 year old plants, plucked Nov. 12th, 1887, dried in the shade for 20 hours, rolled by hand, like tea, then fermented 2½ hours and dried over a charcoal fire.]

Coca, No. 2.—[Gathered on Nov. 17th, 1887, from 2 year old plants, leaves withered in the shade for 20 hours, and placed in a closed box to ferment for three hours, then dried in the sun for 4 hours and finally closed up in lead.]

Coca, No. 3.—[Leaves withered in the shade for 44 hours, dried in the sun for 4 hours, then closed up in lead.]

From Rotterdam.

(1721—21/5/87).

Cali Bean.—[Said to possess the characteristics of the Calabar Bean.]—It is the *Mucuna urens*, and is only used here for making buttons,

purses, and other fancy objects. It is however stated to contain an alkaloid somewhat acting like Physostigmine.

From New Guinea.

(3829—22/7/87).

Bark.—The sample of bark sent by you as a medicinal bark is too small to allow of identification; please send in future bark, leaves and seed.

From Brazil.

(3732—18/7/87).

Jambul.—[We have found here a plant which we take to be Jambul, and enclose some leaves, large and small, and some seeds.]—These are certainly belonging to the *Eugenia jambolana*, and the seeds are very well dried indeed. As to their value, there still appears to be some difference of opinion, and I refer you to the article in the body of the book for further particulars.

From North Borneo.

(3731—18/7/87)

Penagah Tree.—[We have received from Borneo a package containing seeds of the Penagah Tree (*Borneo Mahogandj*), from which the natives extract an oil for lighting purposes, and with your permission will forward it to you, as our friends in Borneo wish to know whether there is any value in the product, or in the gum from the same tree, a sample of which I believe to be already in your possession. I enclose the leaf and flower of the tree, which it may interest you to see.]—This is the *Calophyllum inophyllum*, known here as *Dilo*, or *Ndilo*; the oil from its nut is used for burning, and in certain skin diseases. There is very little sale for it.

From Holland.

(3992—2/7/87.)

Koesambie.—[I shall be glad of your opinion about these nuts.] These are yielded by the *Schleichera Trijuga* (Willd), known in Ceylon as *Korsumbia* and also in Burmah. They yield an oil used for burning purposes, and said to be a cure for the itch. There is not a great scope for such a product in commerce. It is said to yield the true Macassor Oil, which is in appearance, when liquid, of a clear golden color; in this country it is partly solid.

From Brazil.

(7415—30/10/87).

No. 3 Garampara.—[Called by the natives of this part Cumara and Cumarin. The nut, though smaller, resembles that of the Camaru of Para; what is it?]—Mr. J. R. Jackson kindly reports to me these belong to the *Geoffroya superba*, a plant closely allied to the *Dipteryx odorata*. The Garampara nuts have not, however, any fragrance.

From West Africa.

(5228—27/8/87).

Dye Bark.—This is the Doundake, already referred to in a previous issue. I forwarded a sample to a dyer, who reports to me that he cannot report upon it favorably, as the colouring matter did not take well, and that it is in every way inferior to French Berries.

I should feel obliged to any of my readers who can give me any particulars concerning the above specimens as to uses or values.

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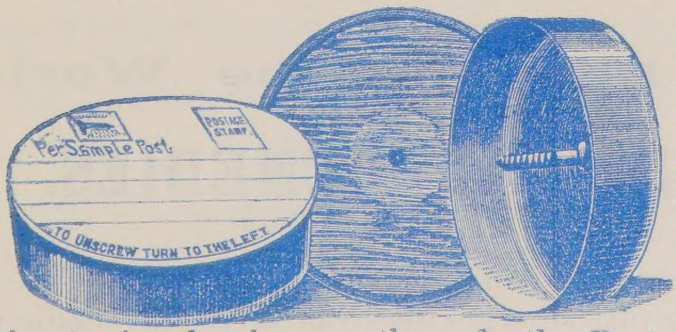

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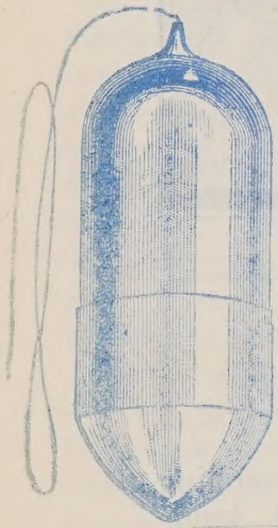

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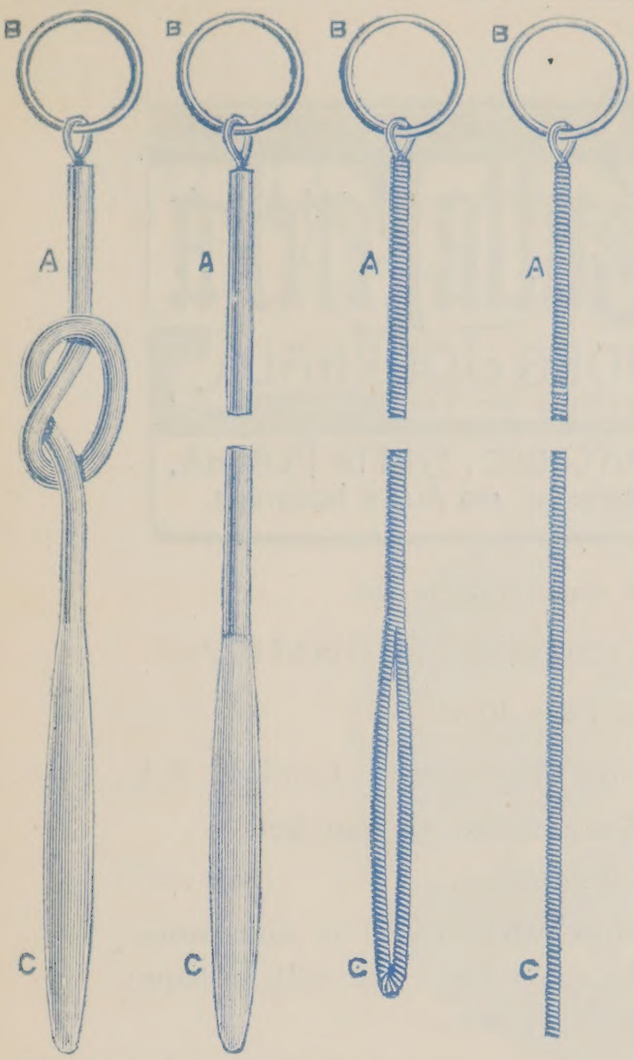

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See Reports published in "The Lancet," May 24th, April 14th, and Dec. 8th, 1888, and "The British Medical Journal," Oct. 20th, 1888.

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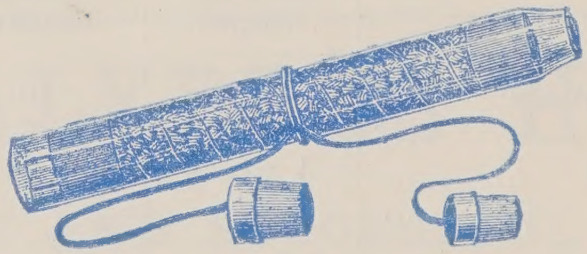

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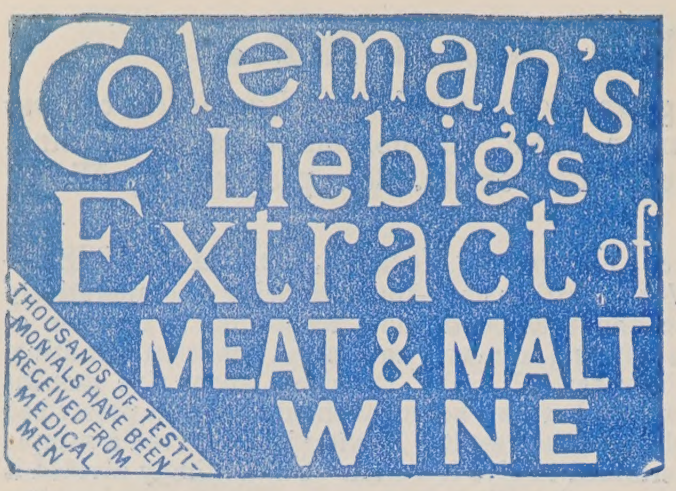

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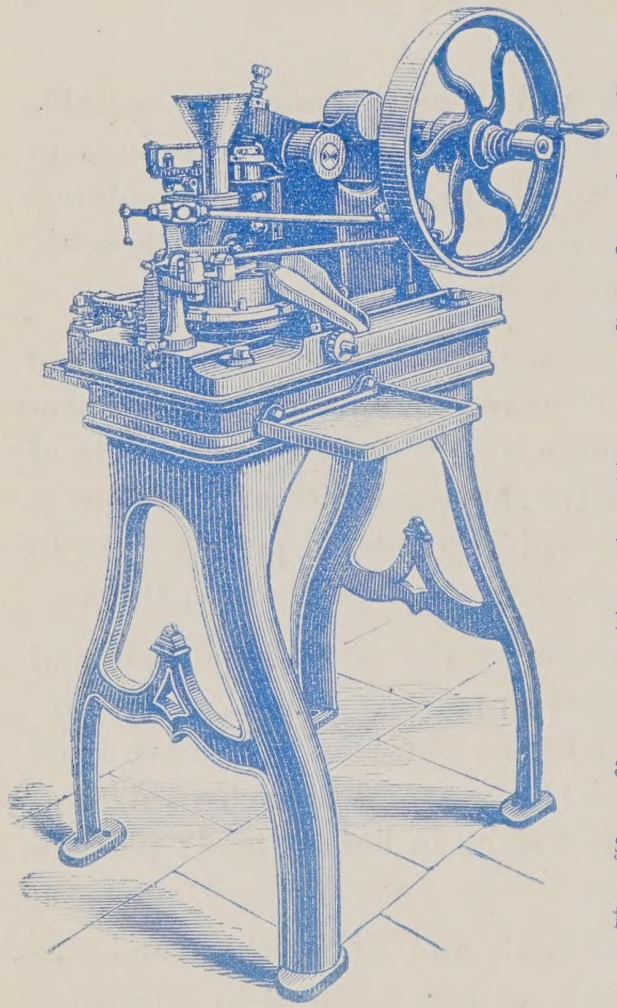

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